

SITE OVERVIEW	
TYPE OF OCCUPANCY:	TELECOMMUNICATIONS
SITE TYPE:	RAWLAND
TOWER TYPE:	MONOPOLE
TOWER HEIGHT:	143-FT +/-
TOWER LATITUDE:	42° 13' 43.72" (N 42.22881°)
TOWER LONGITUDE:	71° 41' 37.27" (W 71.69369°)
ZONING JURISDICTION:	TOWN OF GRAFTON, MA
COUNTY:	WORCESTER
DEED BOOK & PAGE:	18891; 155
PARCEL ID:	110/037.0-0000-115.A
ZONED:	R20 (RESIDENTIAL)
PARCEL AREA:	3.00 ACRES
DISTURBED AREA:	0.59 ACRES (25,900 SF)
POWER COMPANY:	NATIONAL GRID
TELCO/FIBER COMPANY:	VERIZON

PROJECT CONTACT DIRECTORY	
LAND OWNER:	ROSALIND E. DENNIS 84 SNOW RD GRAFTON, MA 01536
APPLICANT:	GLOBAL SIGNAL ACQUISITIONS IV LLC 2000 CORPORATE DRIVE CANONSBURG, PA 15317 (724) 416-2181
SITE ENGINEER:	DELTA OAKS GROUP CONTACT: BRANDON WALLER, PE 4904 PROFESSIONAL COURT, 2ND FLOOR RALEIGH, NC 27609 (919) 342-8247
MUNICIPALITY:	TOWN OF GRAFTON OFFICES 30 PROVIDENCE ROAD GRAFTON, MA 01519 (508) 839-5335

CODE COMPLIANCE	
ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THE LATEST EDITIONS OF THE FOLLOWING:	
1. UNIFORM CONSTRUCTION CODE (UCC)	8. 2012 INTERNATIONAL FIRE CODE
2. ANSI/TIA/EIA-222-G	9. 2012 INTERNATIONAL PLUMBING CODE
3. NATIONAL ELECTRIC CODE	10. 2015 INTERNATIONAL MECHANICAL CODE
4. LOCAL BUILDING CODE	11. 2012 INTERNATIONAL FUEL GAS CODE
5. CITY/COUNTY ORDINANCES	12. 2015 INTERNATIONAL ENERGY CONSERVATION CODE
6. 2015 INTERNATIONAL RESIDENTIAL CODE	13. 2011 NATIONAL ELECTRICAL CODE
7. 2015 INTERNATIONAL BUILDING CODE	14. 2009 INTERNATIONAL WILDLAND-URBAN INTERFACE CODE



DIG SAFE
CALL 811
HOURS BEFORE YOU DIG




GENERAL NOTES
<ul style="list-style-type: none"> THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION, THEREFORE HANDICAP ACCESS IS NOT REQUIRED. A TECHNICIAN WILL VISIT THE SITE AS REQUIRED FOR ROUTINE MAINTENANCE APPROX. ONE TRIP PER MONTH. THE PROJECT WILL NOT RESULT IN A SIGNIFICANT DISTURBANCE OR EFFECT ON DRAINAGE. NO SANITARY SEWER SERVICE, POTABLE WATER, OR TRASH DISPOSAL IS REQUIRED NO COMMERCIAL SIGNAGE IS PROPOSED.

SHEET INDEX			
SHEET NO.	DESCRIPTION	SHEET NO.	DESCRIPTION
T-1	TITLE SHEET	-	-
C-1.1	OVERALL SITE PLAN	-	-
C-1.2	SITE PLAN	-	-
C-2.1	GRADING & EROSION CONTROL PLAN	-	-
C-2.2	TOWER PROFILE & COMPOUND LAYOUT	-	-
C-3	CIVIL DETAILS	-	-
C-4	CIVIL DETAILS	-	-
C-5	CIVIL DETAILS	-	-
C-6	CIVIL DETAILS	-	-
C-7	CIVIL DETAILS	-	-
C-8	CIVIL DETAILS	-	-
C-9	CIVIL DETAILS	-	-
GN-1	GENERAL NOTES	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

RELOCATION PROJECT DRAWINGS

PROPOSED 143-FT MONOPOLE



COPY

RECEIVED

MAY 29 2019

PLANNING BOARD
GRAFTON, MA

EXHIBIT 6

SITE NAME

JON SNOW

SITE ID

BU# 830306

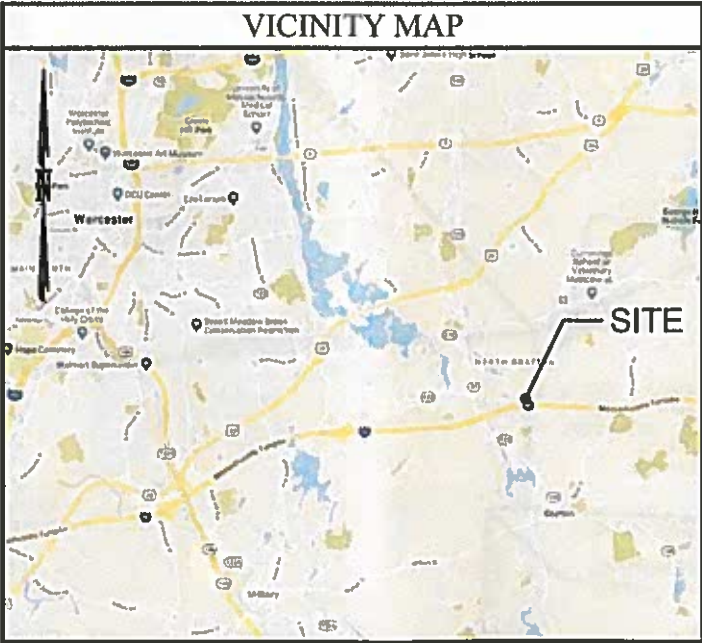
SITE ADDRESS

84 SNOW ROAD, GRAFTON, MA 01536

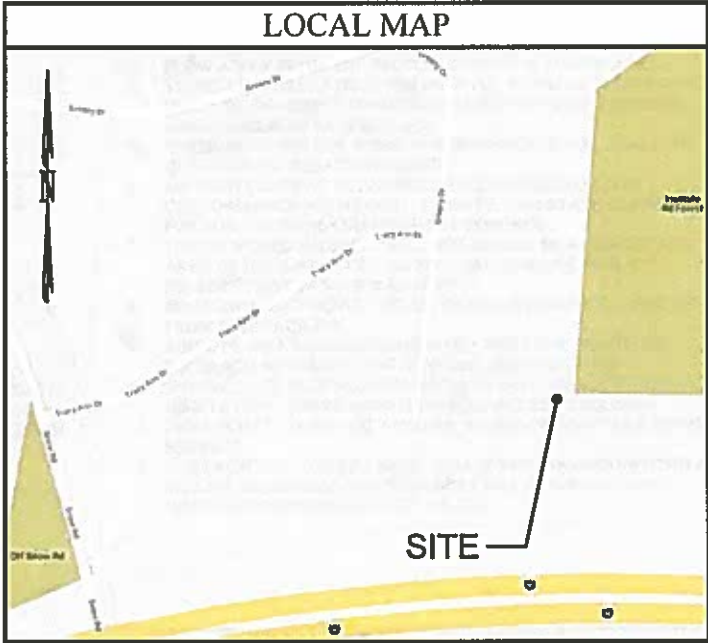
SITE COORDINATES

N 42.22881°, W 71.69369°

VICINITY MAP



LOCAL MAP




DIRECTIONS

FROM THE BOSTON LOGAN AIRPORT, BOSTON, MA

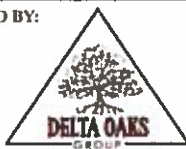
HEAD NORTHWEST (0.4 MILES). SLIGHT RIGHT ONTO AIRPORT RD-ARRIVAL LEVEL (0.1 MILES). KEEP LEFT (0.6 MILES) MERGE ONTO I-90 W (40.4 MILES). TAKE EXIT 11 TOWARD MA-122/MILLBURY/WORCESTER (0.6 MILES). TURN RIGHT ONTO MA-122 S (1.6 MILES). USE ANY LANE TO TURN RIGHT ONTO MA-122 S/MA-140 S (0.8 MILES). TURN LEFT ONTO SNOW RD (0.6 MILES). TURN RIGHT ONTO TRACY ANN DR (0.2 MILES). TURN RIGHT ONTO GREANY DR (0.1 MILES). THE SITE WILL BE ON LEFT AT APPROX. COORDINATES 42° 13' 43.72" N, 71° 41' 37.27" W.

PREPARED FOR:




CROWN CASTLE
CROWN CASTLE USA, INC.
2000 CORPORATE DRIVE
CANONSBURG, PA 15317
PHONE: (724) 416-2000

PREPARED BY:



DELTA OAKS GROUP
4904 PROFESSIONAL COURT, 2ND FLOOR
RALEIGH, NC 27609
PHONE: (919) 342-8247

REGISTERED PROFESSIONAL ENGINEER



MICHAEL L. LASSITER, P.E.
MASSACHUSETTS LICENSE NO. 47314

DRAWN BY: BJW

CHECKED BY: WRB

APP'VD: MLL

PROJECT NO: 19-04298

SUBMITTALS

DATE	DESCRIPTION	REV	ISSUED BY
05/28/19	FINAL ZDs	0	BJW

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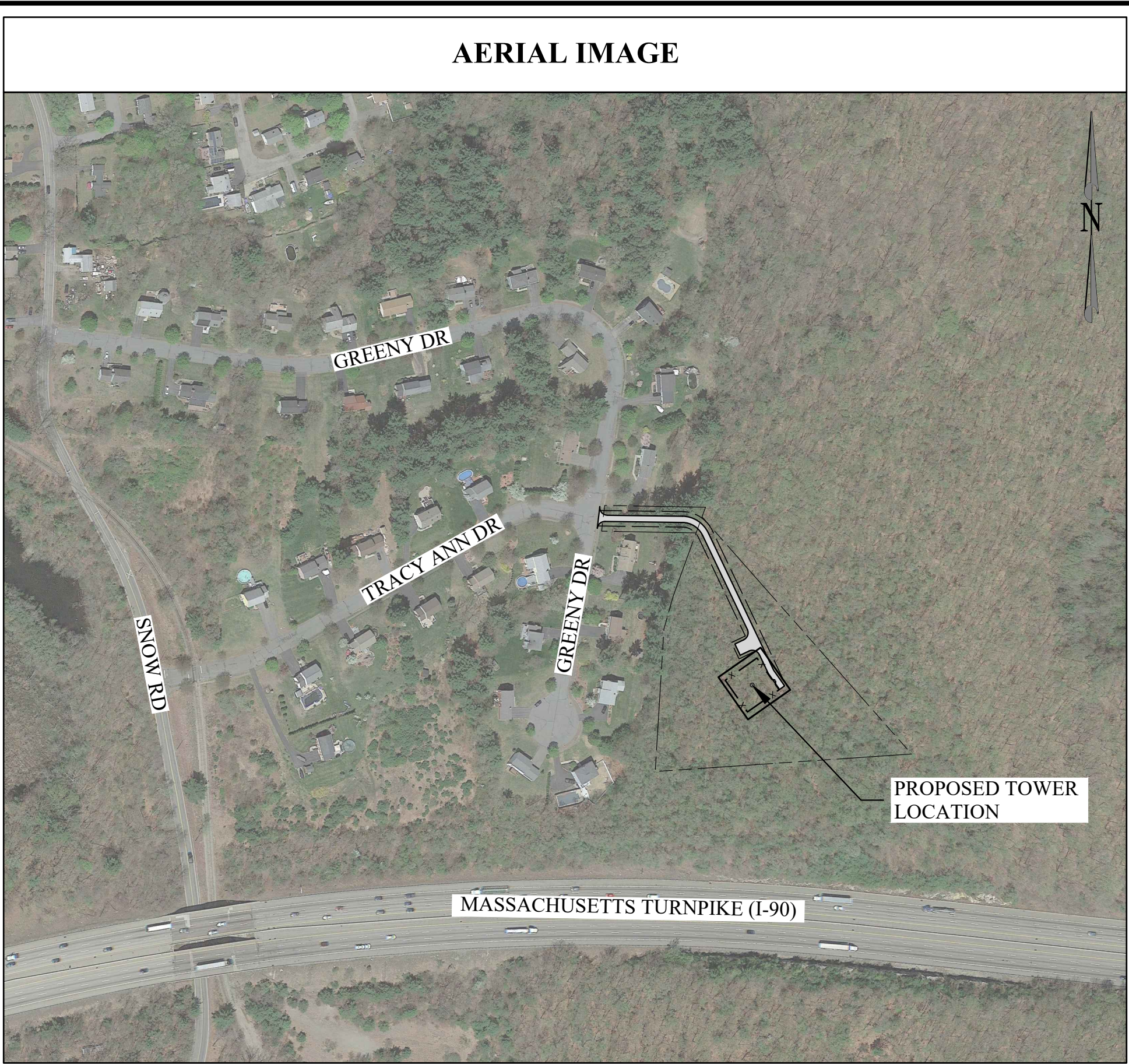
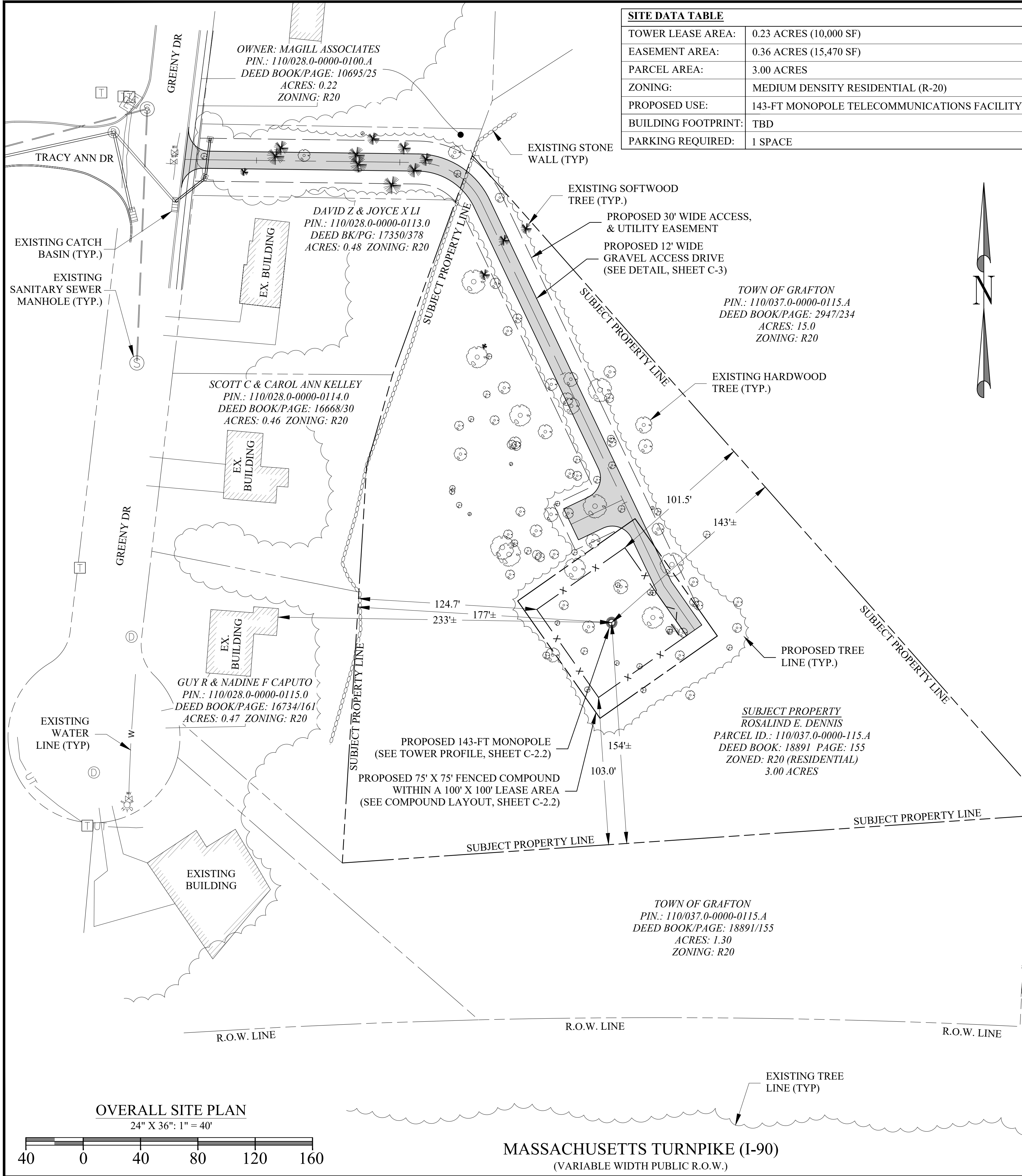
BU# 830306

SHEET TITLE

TITLE SHEET

SHEET NUMBER

T-1



AERIAL IMAGE

SITE PLAN NOTES:

- SEE GENERAL NOTES SHEET GN-1.
- EXISTING TOPOGRAPHIC, UTILITY PLANIMETRIC AND BOUNDARY INFORMATION IS TAKEN FROM ALTA SURVEY DRAWING ENTITLED "JON SNOW", BY JONATHAN MURPHY PROGESSIONAL LAND SURVEYING.
- THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE PROPOSED EQUIP. & TOWER AREA.
- VEGETATED AREAS DISTURBED BY THE WORK OF THIS PROJECT SHALL BE GRADED TO UNIFORM SLOPE, FERTILIZED, SEEDED, AND STABILIZED AS SPECIFIED.
- AUTHORIZATION FOR WORK WITHIN PUBLIC R.O.W. SHALL BE OBTAINED BY THE CONTRACTOR.
- EROSION CONTROL MEASURES SHALL BE INSTALLED IN CONFORMANCE WITH LOCAL, COUNTY, AND STATE GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL.
- THE PROPOSED PROJECT WILL NOT RESULT IN A SIGNIFICANT AREA OF DISTURBANCE AND WILL NOT SIGNIFICANTLY INCREASE STORM WATER RUNOFF.
- NO SIGNIFICANT NOISE, SMOKE, DUST, OR ODOR WILL RESULT FROM THIS FACILITY.
- THE SITE WILL GENERATE APPROX. 4 TRIPS PER MONTH BY TECHNICIANS PERFORMING ROUTINE MAINTENANCE.
- THE FACILITY IS UNMANNED AND NOT INTENDED FOR HUMAN HABITATION. THERE IS NO HANDICAP ACCESS REQUIRED.
- THE FACILITY DOES NOT REQUIRE WATER OR SANITARY SEWER SERVICE.
- THE PROPOSED TOWER LEASE AREA IS NOT LOCATED WITHIN A SPECIAL FLOOD HAZARD ZONE PER FEMA FIRM#25027C0827E WITH EFFECTIVE DATE OF JULY 4, 2011.

ZONING REQUIREMENTS

MEDIUM DENSITY RESIDENTIAL (R-20) ZONING DISTRICT

DESCRIPTION	REQUIRED	PROPOSED
MIN LOT AREA	20,000	129,888
MIN. LOT FRONTAGE	125'	33'
MAX. % BLDG COVERAGE	30%	<5%
MIN. PROPERTY LINE SETBACK TO WCF	300'	143'
MIN. SETBACK FROM RESIDENTIAL BLDG TO WCF	300'	233'
MAX. WCF BUILDING/TOWER HEIGHT	35'	143'
MINIMUM YARD REQUIRED (FRONT/SIDE/REAR)	30'/15'/15'	101' (MIN.)

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05/31/19

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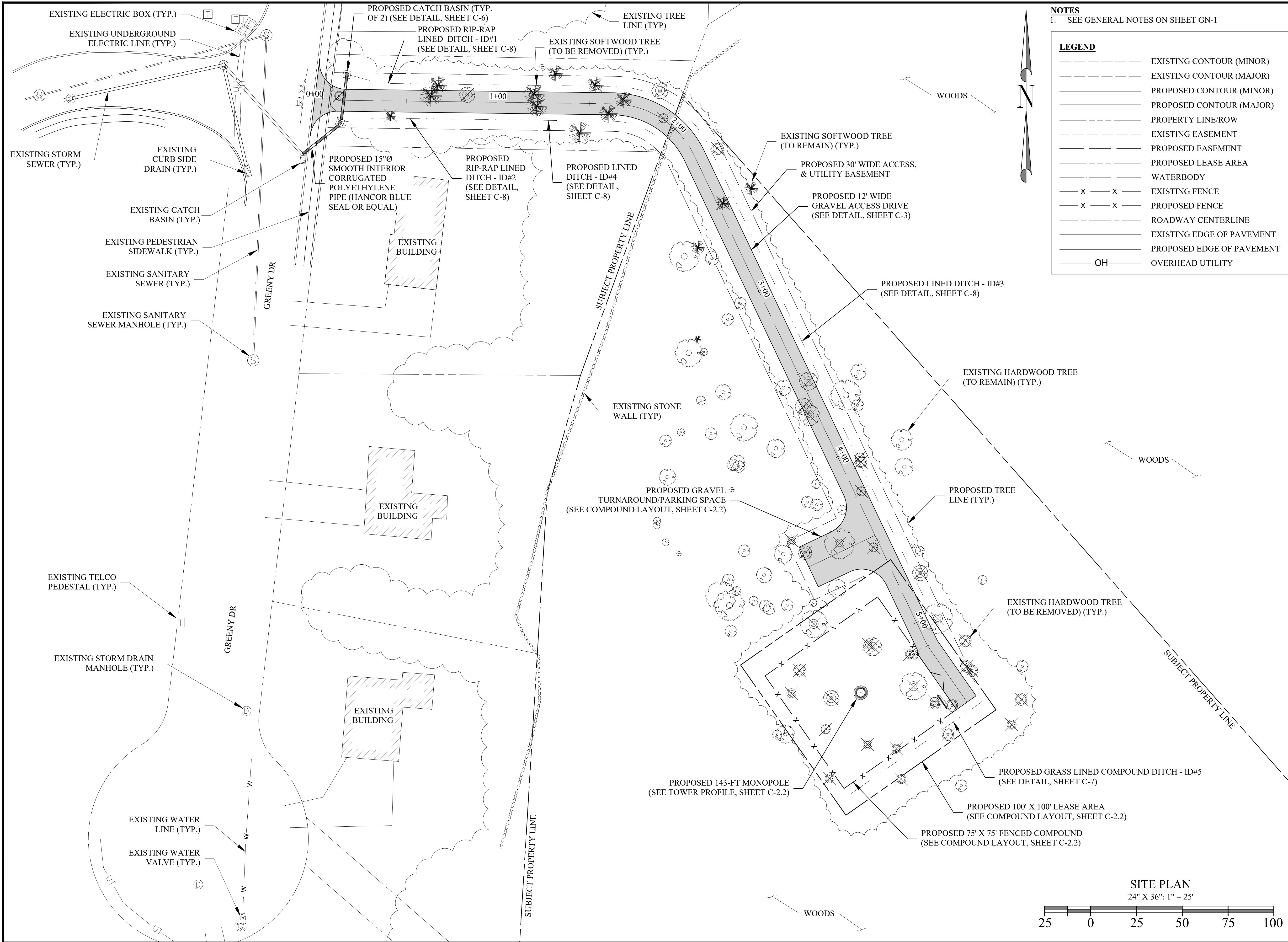
BU# 830306

SHEET TITLE

OVERALL SITE PLAN

SHEET NUMBER

C-1.1



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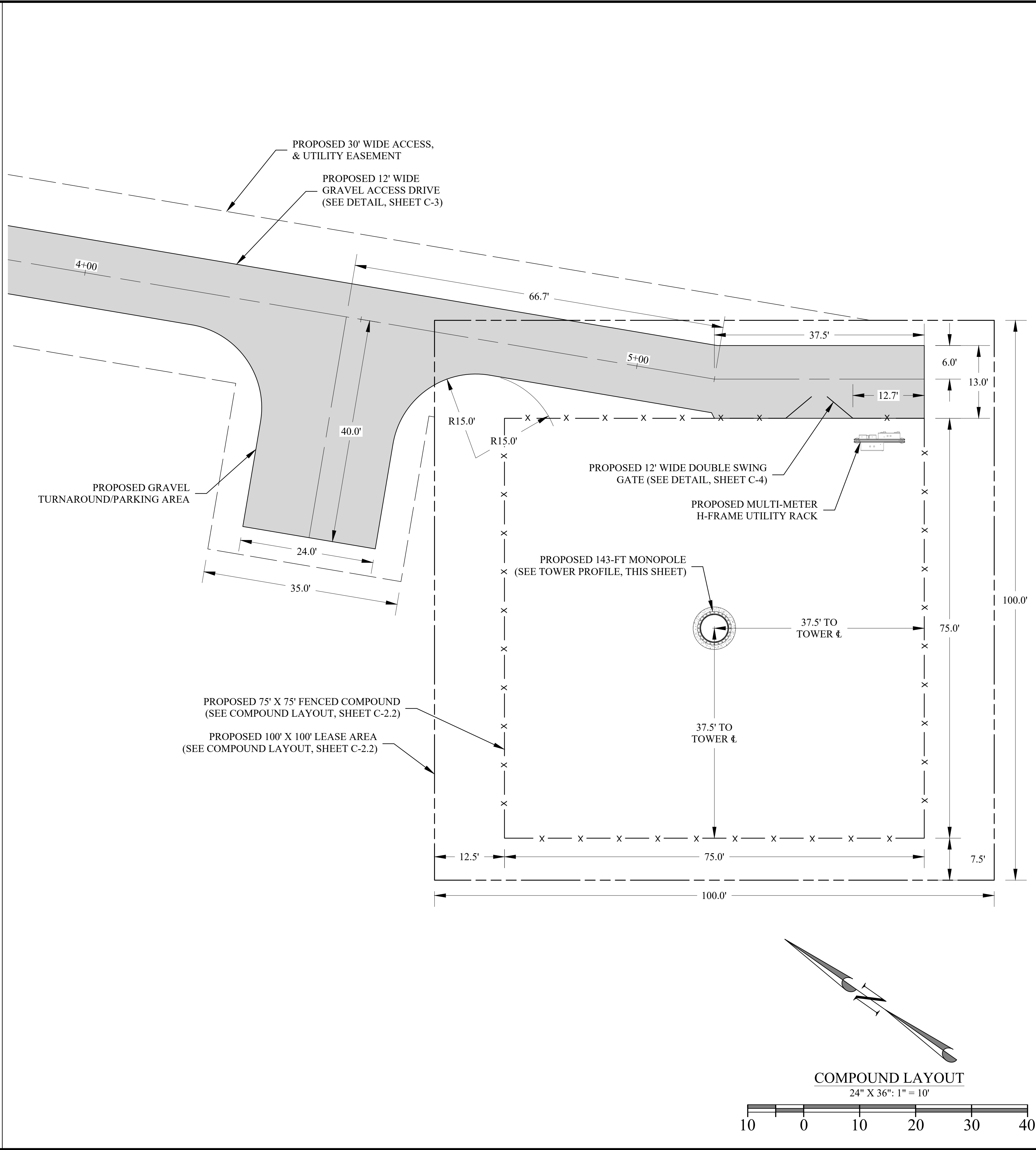
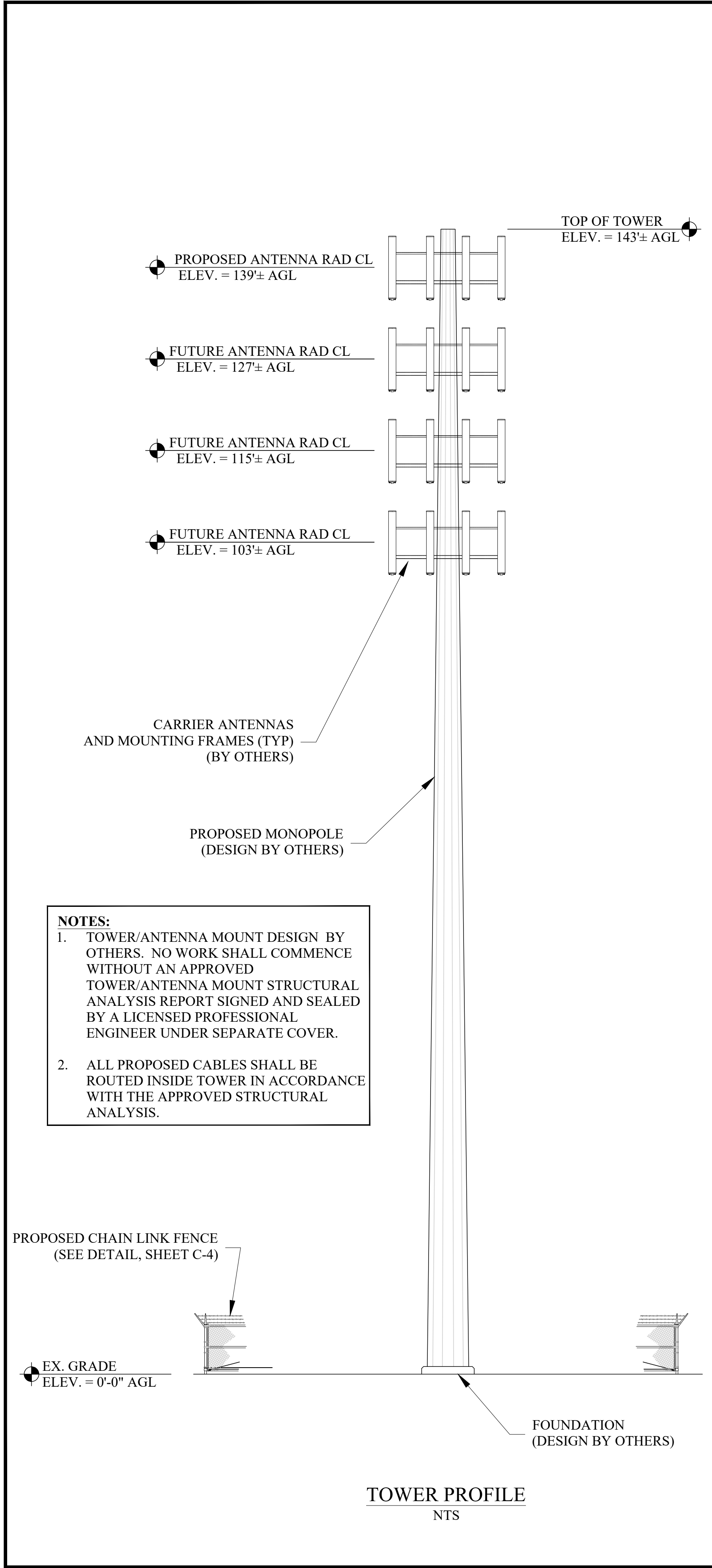
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JON SNOW

SITE ADDRESS:
84 SNOW ROAD
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SITE ID:
BU# 830306

SHEET TITLE
SITE PLAN

SHEET NUMBER
C-1.2



PREPARED FOR:

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2000 CORPORATE DRIVE
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DELTA OAKS GROUP

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Michael L. Lassiter, P.E.

MASSACHUSETTS LICENSE NO. 47314

05/31/19

DRAWN BY: BJW

CHECKED BY: WRB

APPV'D: MLL

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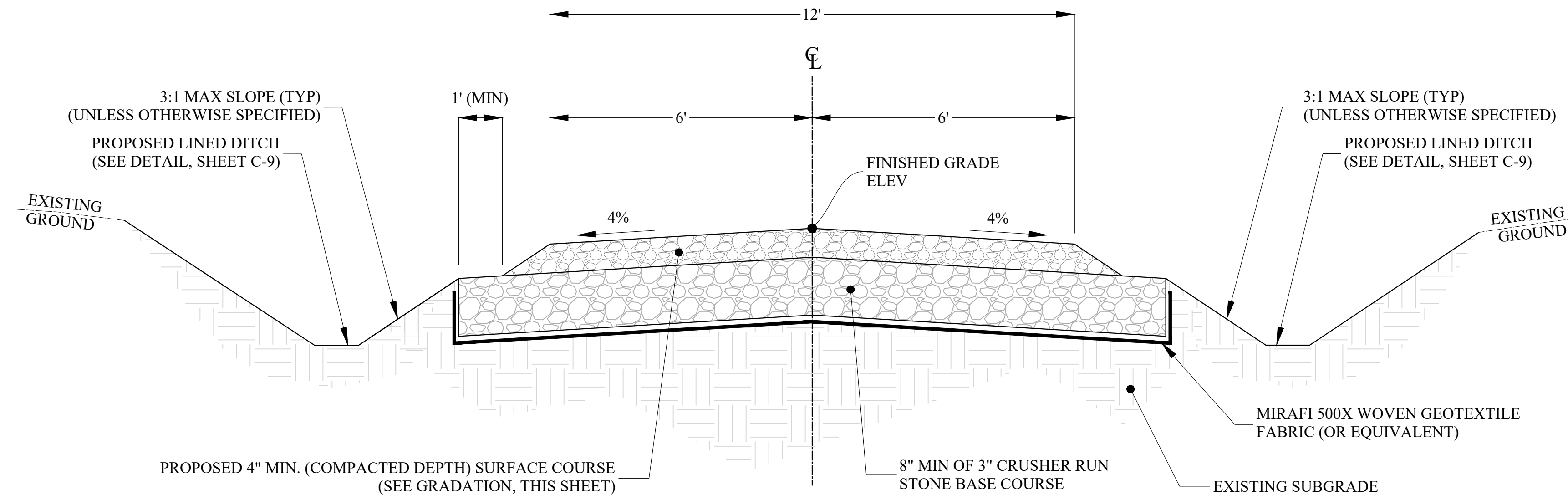
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84 SNOW ROAD
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BU# 830306

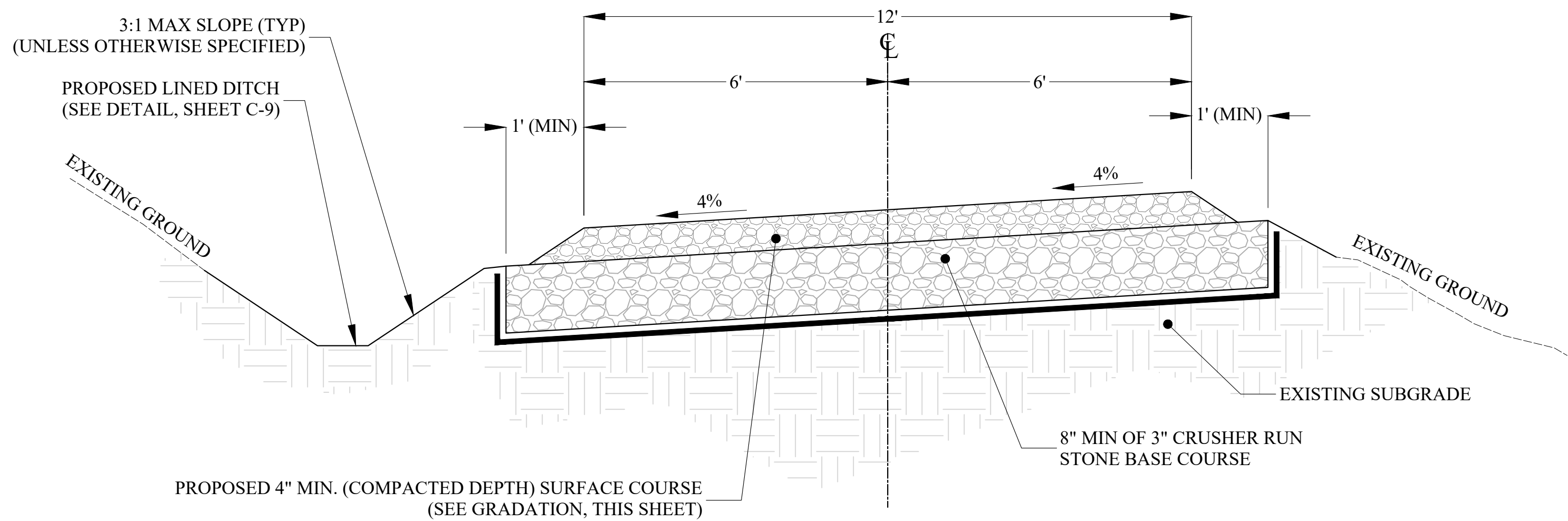
SHEET TITLE
TOWER PROFILE AND
COMPOUND LAYOUT

SHEET NUMBER
C-2.2

TYPICAL NORMAL CROWN ACCESS ROAD SECTION (DITCH BOTH SIDES) (STA 0+00 TO 1+90)



TYPICAL IN-SLOPED ACCESS ROAD SECTION (STA 1+90 TO 5+50)



NOTES

1. REMOVE ALL TOPSOIL, ORGANIC MATERIAL, AND WET OR POOR SOILS ALONG ACCESS DRIVE. CONTRACTOR TO REVIEW SITE CONDITIONS AND CONSULT GEOTECHNICAL REPORT FOR ANTICIPATED DEPTH OF SOILS THAT WILL REQUIRE REMOVAL (IF AVAILABLE). IF POOR SOILS ARE ENCOUNTERED AT A DEPTH OF MORE THAN 12", CONTACT CONSTRUCTION MANAGER FOR GUIDANCE.
2. SUBGRADE TO BE COMPACTED TO 95% STANDARD PROCTOR AND VERIFIED BY PROOF-ROLL AND/OR GEOTECHNICAL PROFESSIONAL OBSERVATION AND/OR TESTING.
3. CONSULT GRADING PLAN OR SITE PLAN FOR FINAL SITE GRADES.

ROADBED, GRAVEL COURSE, AND SUBGRADE REQUIREMENTS

1. THICKNESS OF GRAVEL DRIVE BASE COURSE TO BE DETERMINED BASED ON THE EXISTING SOIL BEARING CAPACITY (PER UFC DESIGN RECOMMENDATIONS):

BEARING CAPACITY (PSF)	TOTAL AGGREGATE THICKNESS (IN)
1000	16
1500	12
2000	8

*A HIGH PERFORMANCE, WOVEN GEOTEXTILE FABRIC MAY BE USED TO REPLACE UP TO 50%, OR 6" OF AGGREGATE THICKNESS, WHICHEVER IS LESS (MIRAFI HP 270 OR EQUIVALENT). FOR SITES WITH POOR SOILS, THE EQUIVALENT AGGREGATE THICKNESS SHOULD BE DETERMINED FROM THE GEOTECHNICAL REPORT OR FROM SITE SPECIFIC CALCULATIONS.

2. IF POOR OR WET SOILS ARE PRESENT BELOW BASE COURSE, CONTRACTOR TO INSTALL 6" MIN. WELL-GRADED GRAVEL/SAND SUB-BASE TO FACILITATE ADEQUATE DRAINAGE AND STABILITY.
3. CONSULT GEOTECHNICAL REPORT (AS AVAILABLE) FOR ANTICIPATED SOIL CONDITIONS.
4. AGGREGATE LAYER GRADATIONS SHALL BE AS FOLLOWS:

REQUIREMENT SIEVE	AGGREGATE BASE COURSE % PASSING	GRAVEL SURFACE COURSE % PASSING
2.5"	-	-
2"	100	-
1.5"	-	-
1"	-	-
3/4"	52-100	100
1/2"	-	-
3/8"	36-70	-
No. 4	24-50	50-78
No. 8	16-38	37-67
No. 16	10-30	-
No. 40	-	15-35
No. 200	0-10	4-15
PLASTICITY INDEX	0-6	4-12

NOTES (FOR IMPROVEMENTS TO EXISTING GRAVEL ROADS)

1. PRIOR TO PLACEMENT OF ADDITIONAL SURFACE OR BASE MATERIAL, EXISTING GRAVEL AND/OR DIRT ROADS SHALL BE EXCAVATED AND RESHAPED AS NECESSARY TO REMOVE DEPRESSIONS, POTHOLES, EROSION, RUTTING, WASHBOARDS, OR OTHER SURFACE IRREGULARITIES IN ORDER TO RESTORE THE SPECIFIED ROADWAY SECTION (NORMAL CROWN, SUPER-SLOPED, ETC.).
2. EXISTING ROADWAY SURFACE SHALL BE SCARIFIED PRIOR TO PLACEMENT OF NEW MATERIAL IN ORDER TO ENSURE A SUFFICIENT BOND.
3. FOR AREAS WHERE PAVEMENT IS REMOVED TO CONSTRUCT THE ACCESS ROAD, ALL EXISTING PAVEMENT/AGGREGATE LAYERS SHALL BE REMOVED, AND THE EXISTING SUBGRADE COMPACTED AND REWORKED AS NECESSARY TO PROVIDE THE COMPACTION AND SECTION REQUIREMENTS SPECIFIED HEREIN OR IN THE ASSOCIATED GEOTECHNICAL REPORT, WHICHEVER IS MORE STRINGENT.

PREPARED FOR:



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2000 CORPORATE DRIVE
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PHONE: (724) 416-2000

PREPARED BY:



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PHONE: (919) 342-8247



MICHAEL L. LASSITER, P.E.
MASSACHUSETTS LICENSE NO. 47314
05/31/19

DRAWN BY: BJW
CHECKED BY: WRB
APPV'D: MLL
PROJECT NO: 19-04298

SUBMITTALS

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84 SNOW ROAD
GRAFTON, MA 01536

SITE ID:

BU# 830306

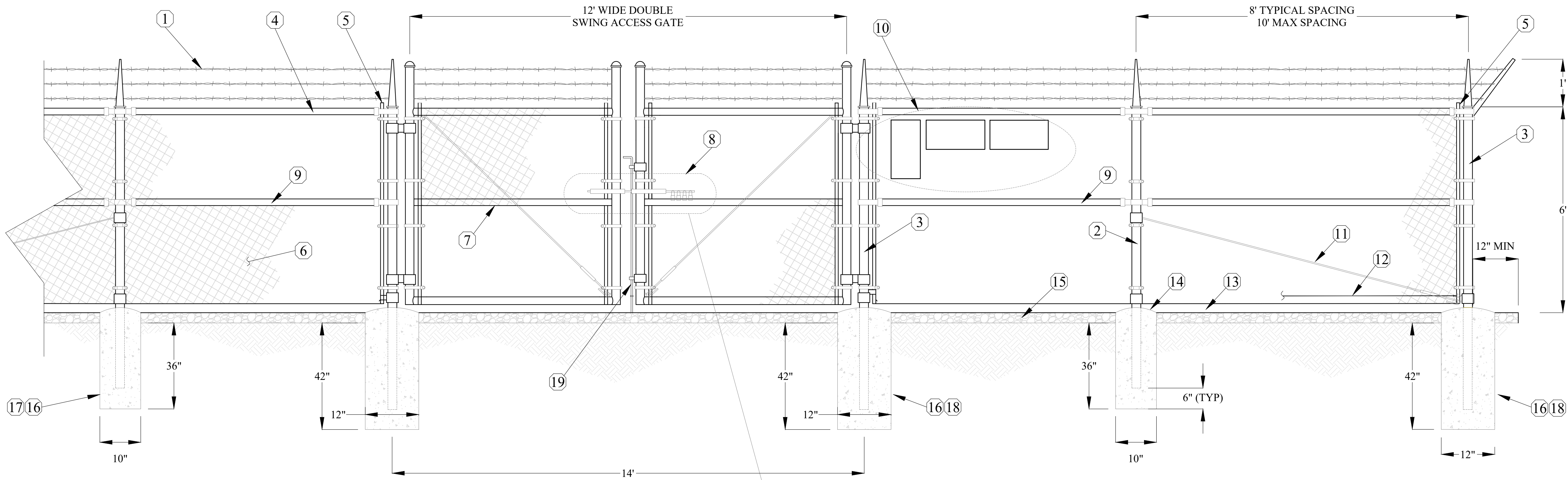
SHEET TITLE

CIVIL DETAILS

SHEET NUMBER

C-3

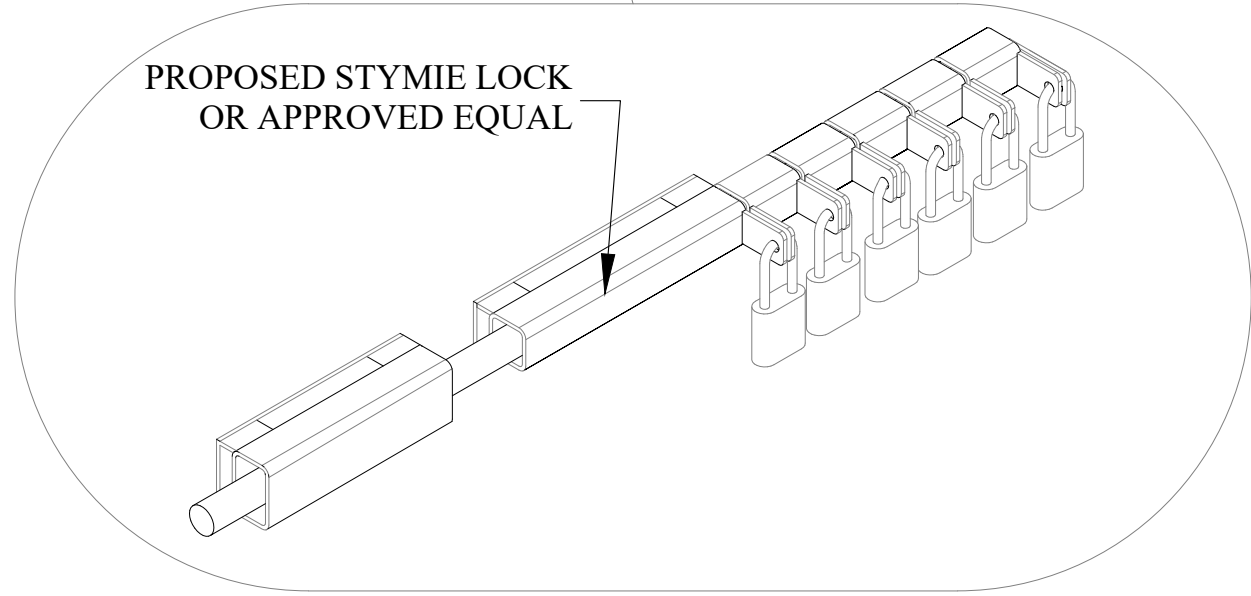
COMPOUND FENCE



KEYNOTES:

- 3 STRANDS OF DOUBLE 12 1/2 GAUGE TWISTED STRAND WIRE, WITH 4 POINT 14 GAUGE BARBS SPACED 5" O.C.
- 2-1/2" NOMINAL GALVANIZED STEEL, SCHEDULE 40 INTERMEDIARY LINE POSTS (PER ASTM-F1083). LINE POSTS SHALL BE EQUALLY SPACED AT MAXIMUM 10' O.C.
- 3" O.D. GALVANIZED STEEL SCHEDULE 40 CORNER AND GATE POSTS (PER ASTM-F1083). IF GATE LEAF WIDTH GREATER THAN OR EQUAL TO 10-FT OR IF FENCE FABRIC EXTENDED OVER 6-FT AND GATE LEAF WIDTH OVER 6-FT, GATE POST SHALL BE 4" O.D. GALVANIZED STEEL SCHEDULE 40 (PER ASTM-F1083).
- 1-5/8" O.D. SCHEDULE 40 ROUND TOP/BRACE RAIL (PER ASTM-F1083)
- STRETCHER BAR TO EXTEND FULL HEIGHT OF FENCE FABRIC; NOT LESS THAN 1 1/8" X 3/4" CROSS SECTION; PLACE ON ALL GATES AND POSTS
- 9 GAUGE 2" x 2" FENCE FABRIC (TO CONFORM TO ASTM-A392)
- GATE FRAME BRACE
- STYMIE LOCK OR OTHER APPROVED MULTI-TENANT LOCKING DEVICE
- 1-5/8" DIAMETER POST BRACE (AS REQUIRED)
- GATE SIGNS (SEE DETAIL, THIS SHEET)
- 3/8" DIAGONAL BRACE ROD WITH GALVANIZED STEEL TURNBUCKLE OR DIAGONAL THREADED ROD
- 9 GAUGE ALUMINUM TIE WIRE. PROVIDE HOG RING FABRIC TIES SPACED 12" O.C. FOR POSTS AND GATES AND 24" O.C. FOR RAILS AND WIRE.
- MAINTAIN A 1" MAXIMUM CLEARANCE FROM FINISHED GRADE
- PROVIDE CROWNED/PITCHED FINISH FOR FENCE POST PIER FOUNDATIONS
- COMPOUND SECTION AND MATERIALS (SEE DETAIL, SHEET C-5)
CONCRETE PIER FOUNDATION; TO ACHIEVE A MINIMUM STRENGTH OF 3000 PSI AT 28 DAYS. CONCRETE DEPTH TO BE AS SPECIFIED HEREIN, AS SPECIFIED BY MANUFACTURER, OR A MINIMUM OF 6" BELOW FROST LINE; WHICHEVER IS GREATER
- LINE POST CONCRETE PIER FOUNDATION
- CORNER/GATE POST CONCRETE PIER FOUNDATION
- COMMERCIAL GRADE DROP ROD AND CENTERSTOP (HOOVER FENCE OR EQUIV)

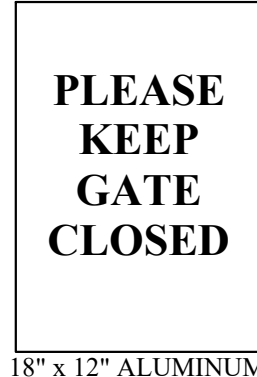
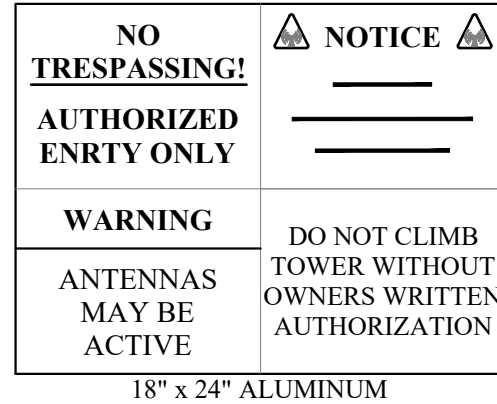
PROPOSED STYMIE LOCK
OR APPROVED EQUAL



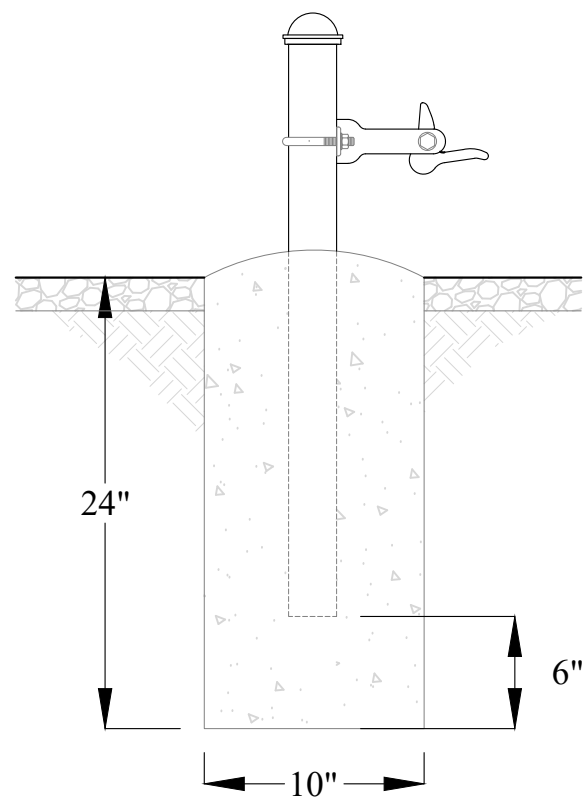
NOTES:

- FENCE DESIGN AND INSTALLATION NOTES ARE INDUSTRY STANDARDS AND/OR MINIMUM REQUIREMENTS AND ARE FOR GENERAL GUIDANCE ONLY. REFER TO MANUFACTURER'S RECOMMENDATIONS OF THE SPECIFIED PRODUCT AND APPLICABLE GOVERNING CODES FOR FULL INSTALLATION DETAILS. IN THE EVENT OF DISCREPANCIES, MANUFACTURER'S RECOMMENDATIONS OR APPLICABLE CODE SHALL GOVERN, WHICHEVER IS MORE STRINGENT.
- ALL FENCING TO BE INSTALLED PER ASTM F-567. ALL SWING GATES TO BE INSTALLED PER ASTM F-900.
- BARBED WIRE PERMIT REQUIRED SHALL BE COMPLETED IF LOCAL ORDINANCE REQUIRES.
- POST & GATE PIPE SIZES ARE INDUSTRY STANDARDS. ALL PIPE TO BE GALVANIZED (HOT DIP, ASTM A120 GRADE "A" STEEL). ALL GATE FRAMES SHALL BE WELDED. ALL WELDINGS SHALL BE COATED WITH (3) COATS OF GOLD GALV. (OR EQUAL). ALL OPEN POSTS SHALL HAVE END-CAPS.
- ALL SIGNS MUST BE MOUNTED ON INSIDE OF FENCE FABRIC USING GALVANIZED HOG-RING WIRE.
- ALL SIGNS AND SIGN PLACEMENT SHALL ADHERE TO THE REQUIREMENTS OF OSHA 1910.145 AND 1910.200 AND ALL APPLICABLE FCC CODES
- DROP ROD AND CENTERSTOP REQUIRED FOR GATE. GENERAL CONTRACTOR RESPONSIBLE FOR GATE LOCK.

GATE SIGNS



GATE KEEPER



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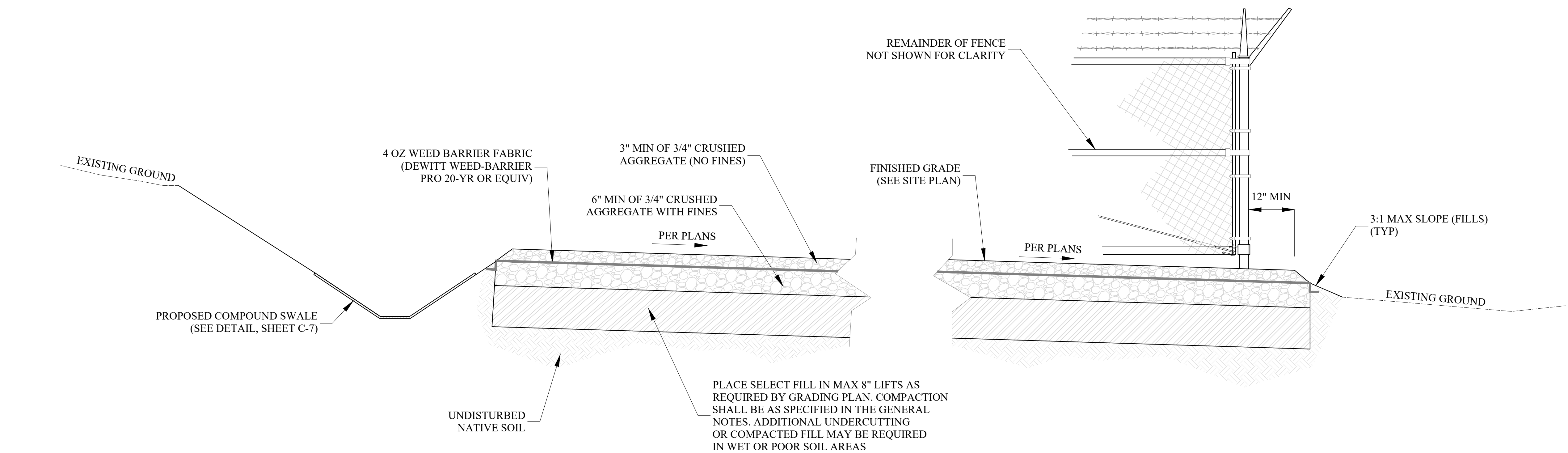
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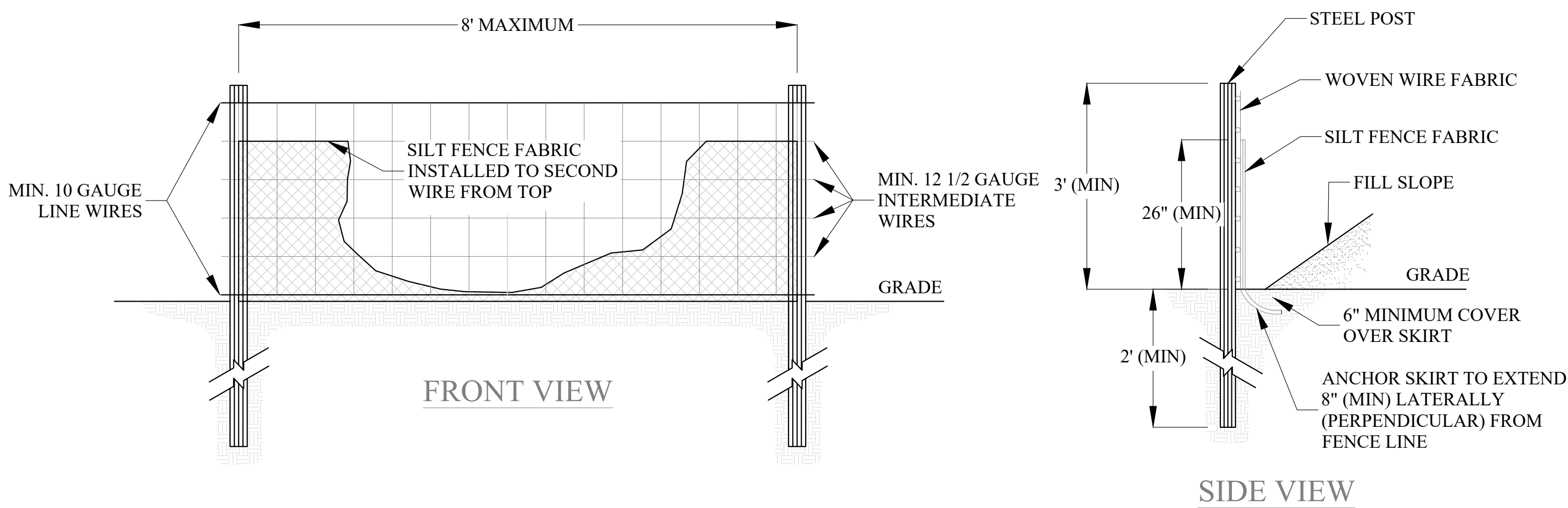
SHEET NUMBER

C-4

COMPOUND SECTION



TEMPORARY SILT FENCE



- NOTE:
- USE SILT FENCE ONLY WHEN DRAINAGE AREA DOES NOT EXCEED 1/4 ACRE AND NEVER IN AREAS OF CONCENTRATED FLOW.

CONSTRUCTION SEQUENCE

- CONSTRUCTION SEQUENCE**
- PROJECT STAKEHOLDERS TO CONDUCT PRE-CONSTRUCTION MEETINGS AS REQUIRED BY THE GOVERNING AUTHORITY
 - INSTALL SILT FENCE (AS SHOWN ON THE PLANS AND DOWNSTREAM OF ALL EXCAVATED AREAS), CONSTRUCTION ENTRANCE, AND/OR SOIL STOCKPILING AREAS PRIOR TO THE COMMENCEMENT OF GRADING
 - CLEAR AND GRUB REMAINING AREAS AND PROCEED WITH ROUGH GRADING (INCLUDING DITCHES AND SWALES); INSTALL ADDITIONAL EROSION CONTROL MEASURES AFTER GRADING BEGINS AS REQUIRED
 - INSTALL ON-SITE UTILITIES AND STORMWATER MANAGEMENT FACILITIES (PROPOSED CULVERTS AND OTHER STORMWATER COLLECTION SYSTEMS) AND TEMPORARY STABILIZATION AS SHOWN ON PLANS
 - CONSTRUCT TOWER FOUNDATION AND COMMUNICATION FACILITIES AS APPLICABLE
 - FINISH GRADE PROPOSED ACCESS DRIVE, STORAGE CHANNELS, INFILTRATION TRENCH, AND TOWER COMPOUND
 - STABILIZE GRAVEL AND PAVED AREAS PER PLANS, TOPSOIL AND PERMANENTLY SEED DENUDED CUT/FILL SLOPES AND INSTALL EROSION CONTROL MATTING, CHANNEL LINING, RIP-RAP APRONS, ETC. AS SPECIFIED ON PLANS (PERMANENT COVER SHOULD BE INSTALLED WITHIN 7-DAYS AFTER FINISHED GRADES HAVE BEEN ESTABLISHED)
 - MAINTAIN PERIMETER SILT FENCE AND OTHER PERIMETER SOIL EROSION CONTROL MEASURES AS APPLICABLE UNTIL PERMANENT GROUND COVER IS ESTABLISHED
 - REMOVE ANY EROSION CONTROL MEASURES FROM AREAS THAT HAVE BEEN PERMANENTLY STABILIZED AND STABILIZE AREAS OF THE DEVICE(S) REMOVAL
 - FOR ANY DENUDED AREA TO BE CONSIDERED PERMANENTLY STABILIZED, THE DENUDED AREA SHOULD BE UNIFORMLY COVERED IN PERENNIAL VEGETATION WITH A DENSITY OF 85% OR GREATER, OR COVERED IN OTHER NON-VEGETATIVE MATERIAL WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED EROSION

PREPARED FOR:

CROWN CASTLE

CROWN CASTLE USA, INC.
2000 CORPORATE DRIVE
CANONSBURG, PA 15317
PHONE: (724) 416-2000

PREPARED BY:

DELTA OAKS GROUP

DELTA OAKS GROUP
4904 PROFESSIONAL COURT, 2ND FLOOR
RALEIGH, NC 27609
PHONE: (919) 342-8247



MICHAEL L. LASSITER, P.E.
MASSACHUSETTS LICENSE NO. 47314

05/31/19

DRAWN BY:	BJW
CHECKED BY:	WRB
APPV'D:	MLL
PROJECT NO:	19-04298

SUBMITTALS			
DATE	DESCRIPTION	REV	ISSUED BY
05/31/19	FINAL ZDs	0	BJW

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SITE NAME:
JON SNOW

SITE ADDRESS:
84 SNOW ROAD
GRAFTON, MA 01536

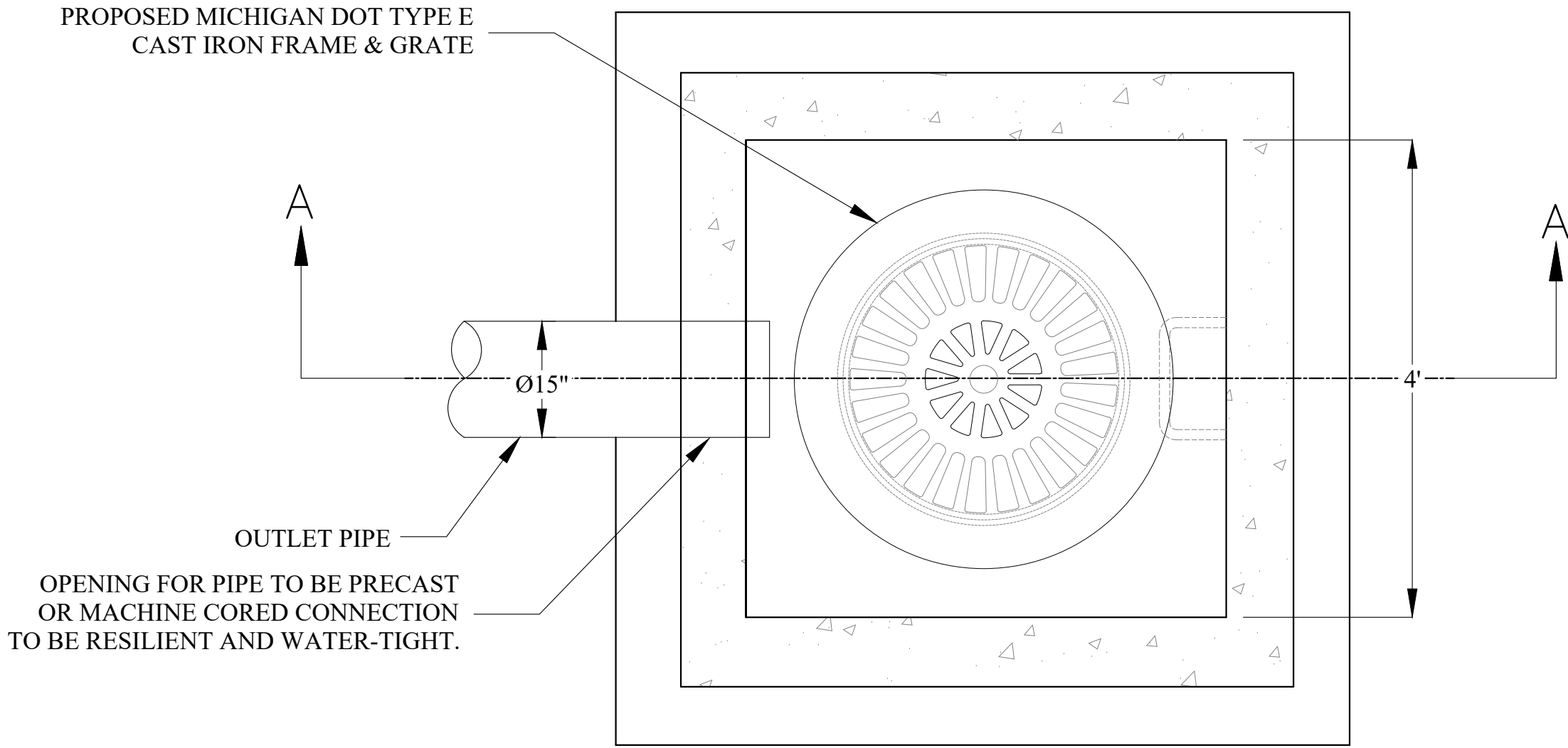
SITE ID:
BU# 830306

SHEET TITLE
CIVIL DETAILS

SHEET NUMBER
C-5

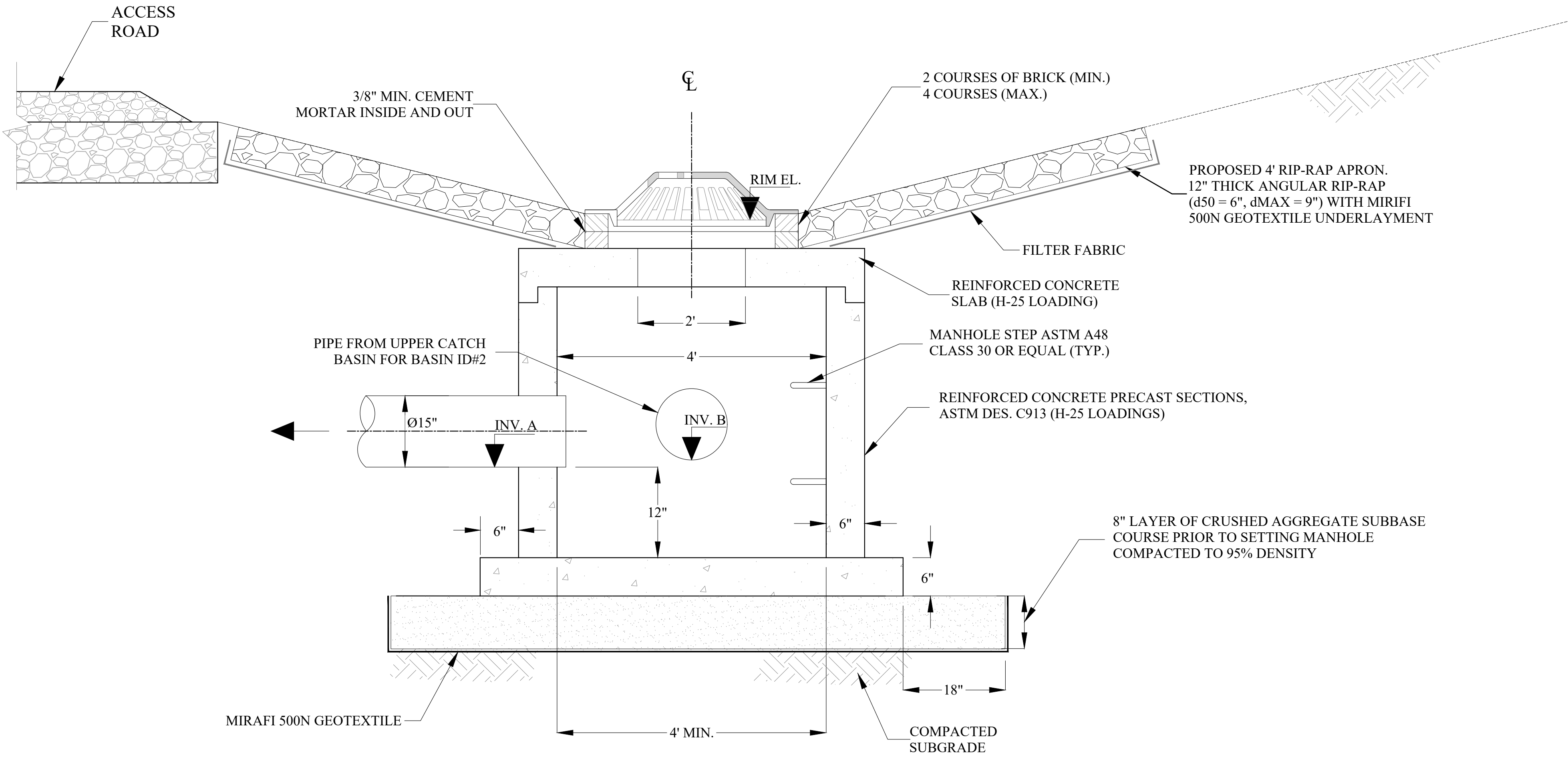
TYPICAL CATCH BASIN DETAIL

ID	RIM EL.	INV. A (PIPE EXITING CB)	INV. B (PIPE ENTERING CB)
1	389.75'	386.75'	-
2	389.25'	386.0'	386.25'



PLAN

- NOTES:
- CATCH BASIN STRUCTURE SHALL BE DESIGNED FOR H-25 LOADING.
 - PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ALL DRAINAGE STRUCTURES TO THE OWNER'S REPRESENTATIVE FOR REVIEW.



SECTION A-A

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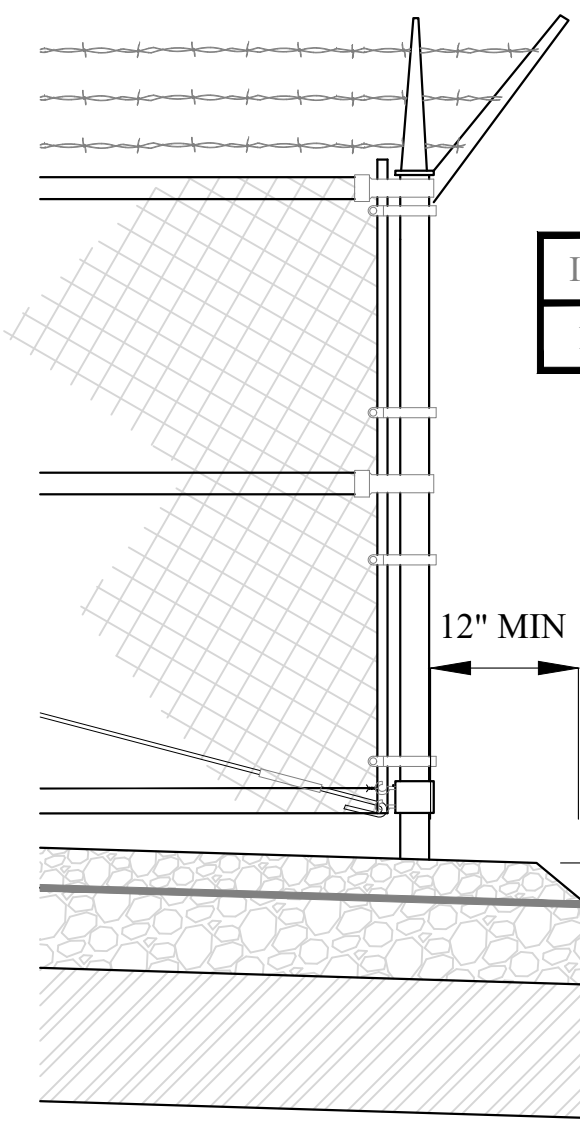
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SITE ID:
BU# 830306

SHEET TITLE
CIVIL DETAILS

SHEET NUMBER
C-6



GRASS LINED COMPOUND
DIVERSION SWALE SECTION

ID	BW	MIN. D	SS	DITCH LINER MATERIAL
1	1.0'	1.0'	3:1	NORTH AMERICAN GREEN C125BN, OR EQUIVALENT

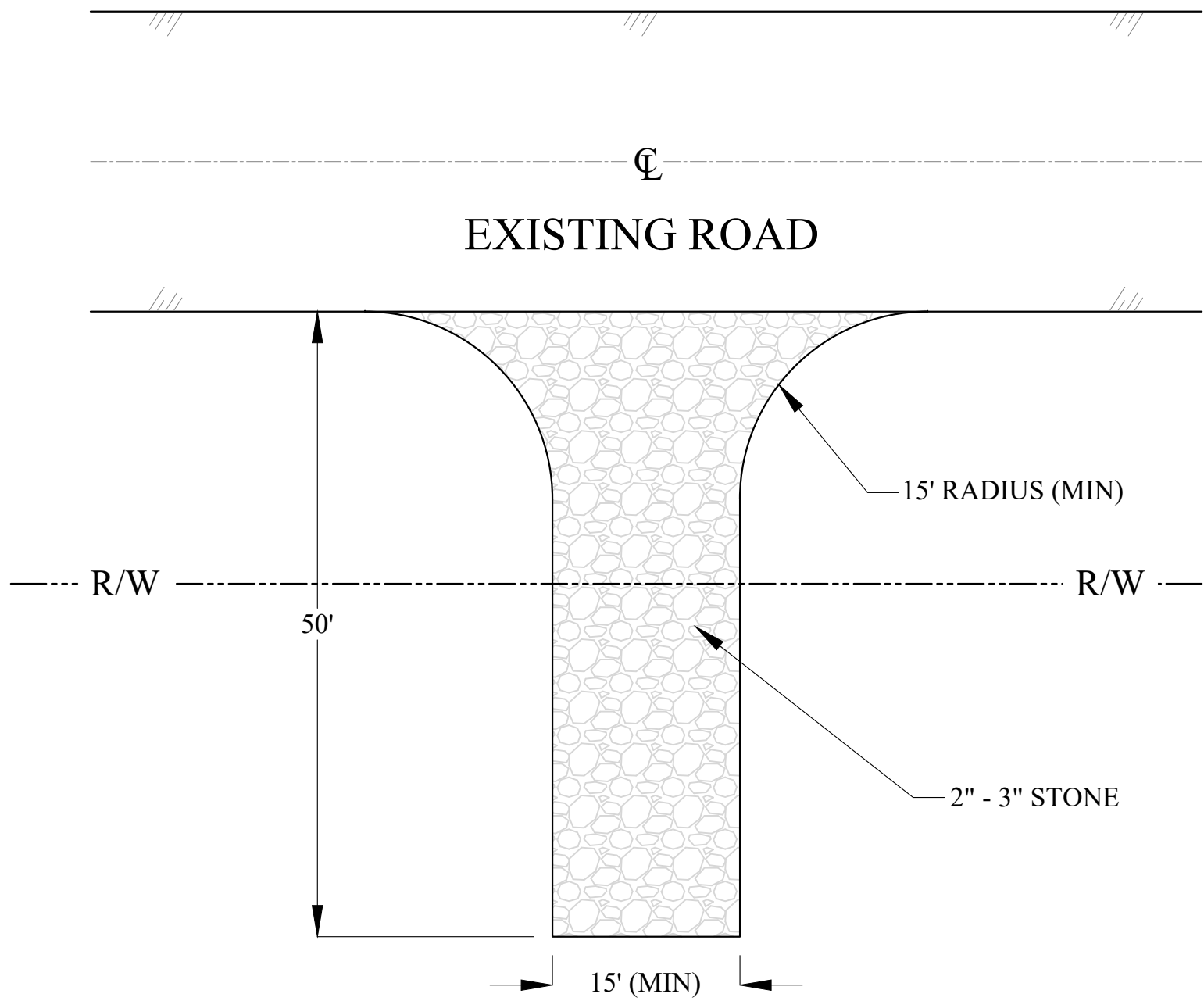
NOTES

- REMOVE ALL TREES, BRUSH, STUMPS, AND OTHER OBJECTIONABLE MATERIAL FROM THE CHANNEL SECTION AND DISPOSE OF PROPERLY (THE CHANNEL SECTION SHOULD BE FREE OF BANK PROJECTIONS OR OTHER IRREGULARITIES WHICH OBSTRUCT NORMAL FLOW).
- EXCAVATE AND SHAPE CHANNEL TO DIMENSIONS SHOWN ON PLANS. OVERCUT ENTIRE CHANNEL 0.3 FT TO ALLOW FOR BULKING DURING SEED BED PREPARATION AND GROWTH OF VEGETATION.
- GRADE SITE AND ROAD SO THAT SURFACE WATER MAY ENTER THE CHANNEL FREELY. AVOID BERMING SOIL ALONG THE ADJACENT ROADWAY OR CUT SLOPE THAT WOULD PREVENT RUNOFF FROM ENTERING THE CHANNEL SECTION.
- STABILIZE OUTLETS AND INSTALL SEDIMENT TRAPS AS NEEDED DURING CHANNEL INSTALLATION.
- VEGETATE THE CHANNEL PER PERMANENT SEEDING SPECIFICATION IMMEDIATELY AFTER GRADING. SMOOTH SLOPES FACILITATE MAINTENANCE.
- CONTRACTOR TO MAXIMIZE "BW" AS SPACE ALLOWS.

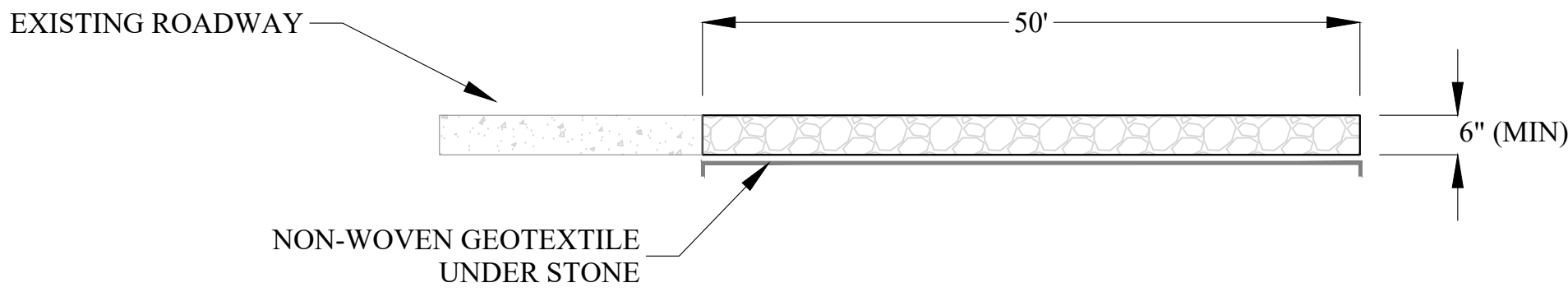
TEMPORARY CONSTRUCTION ENTRANCE

NOTES

- TURNING RADIUS TO BE INCREASED AS REQUIRED TO ACCOMMODATE CONSTRUCTION TRAFFIC
- CONSTRUCTION TRAFFIC SHOULD ENTER AND LEAVE SITE AT CONSTRUCTION ENTRANCES ONLY (UTILIZE SILT FENCE OR OTHER BARRIER TO ENCOURAGE USE OF CONSTRUCTION ENTRANCE)
- MATERIAL TRACKED ONTO THE ADJACENT ROADWAY MUST BE CLEANED IMMEDIATELY
- CONSTRUCTION ENTRANCE MUST BE MAINTAINED IN GOOD WORKING CONDITION AT ALL TIMES. FAILURE OF THE CONSTRUCTION ENTRANCE TO REMOVE SEDIMENT FROM CONSTRUCTION TRAFFIC PRIOR TO LEAVING THE SITE MAY NECESSITATE A WASHING STATION.



PLAN VIEW



CROSS SECTION

PERMANENT SEEDING SPECIFICATION

SEEDING SCHEDULE

- STRIP AND STOCKPILE TOPSOIL IN THE DESIGNATED LOCATIONS SHOWN ON THE GRADING AND EROSION CONTROL PLAN. SPREAD TOPSOIL TO A MIN. 4 TO 6-INCH DEPTH IN ALL DISTURBED AREAS NOT RECEIVING A GRAVEL SURFACE TREATMENT.
- SHAPE ALL AREAS TO TYPICAL CROSS SECTION AND DRESS SAME AS REQUIRED.
- SPREAD FERTILIZER AND PREPARE SEED BED (SEE GENERAL NOTES, SHEET GN-1). THE REQUIRED FERTILIZER AND AGRICULTURAL LIMESTONE SHALL BE SPREAD UNIFORMLY OVER THE AREA TO BE TOP SEEDED. AFTER THE FERTILIZER AND LIMESTONE HAS BEEN SPREAD, THE AREA SHALL BE THOROUGHLY PULVERIZED AND THE FERTILIZER INCORPORATED IN THE TOP FOUR (4) INCHES OF THE GRADED AREAS.
- IN THE ABSENCE OF A SOIL TEST, FERTILIZER AND AGRICULTURAL LIMESTONE SHALL BE APPLIED AT THE FOLLOWING RATES:
COMBINATION FERTILIZER (10-20-20) - 500 LBS. PER ACRE
AGRICULTURAL LIMESTONE - 2.5 TONS PER ACRE
- SEEDING AND/OR SODDING IS REQUIRED ON DISTURBED AREAS. ALL AREAS SHOULD RECEIVE SEED MIX AS FOLLOWS:
RED FESCUE - 10 LBS. PER ACRE
CANADA BLUEGRASS - 10 LBS. PER ACRE
PERENNIAL RYEGRASS - 10 LBS. PER ACRE
RED TOP - 1 LBS. PER ACRE
- SEEDING OPERATIONS SHOULD BE PERFORMED WITHIN ONE OF THE FOLLOWING PERIODS: APRIL 1 - MAY 31, AUGUST 1 TO SEPTEMBER 10, NOVEMBER 1 - DECEMBER 15 AS DORMANT SEEDING (SEEDING RATES SHALL BE INCREASED 50% FOR DORMANT SEEDING)
- ALL AREAS SHALL BE COVERED WITH A BALED STRAW MULCH (OAT, WHEAT, RICE, BARLEY, ETC.) AT THE RATE OF 1.5 TO 2.0 TONS PER ACRE. THE MULCH SHALL BE DRY AND FREE OF WEEDS. THE MULCH SHALL BE SPREAD AND ANCHORED IN SUCH A MANNER AS TO GIVE A UNIFORM COVER OVER THE ENTIRE AREA.
- THE CONTRACTOR SHALL MAINTAIN THE GRASSED AREAS IN A SATISFACTORY MANNER UNTIL A GOOD GROWTH IS ASSURED AND FINAL ACCEPTANCE IS MADE BY THE CLIENT. MAINTENANCE WORK SHALL INCLUDE WATERING (WHEN NECESSARY), RESTORING/ REPLACING GRASS, FILLING WASHES AND MOWING, IF NECESSARY.
- WHEN GRASS OR GRASSES HAVE OVERLAPPING GROWTH (MIN. 85% COVERAGE), THE AREA SHALL BE CONSIDERED TO HAVE SATISFACTORY GROWTH.

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MASSACHUSETTS LICENSE NO. 47314

05/31/19

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APPV'D: MLL

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GRAFTON, MA 01536

SITE ID:

BU# 830306

SHEET TITLE

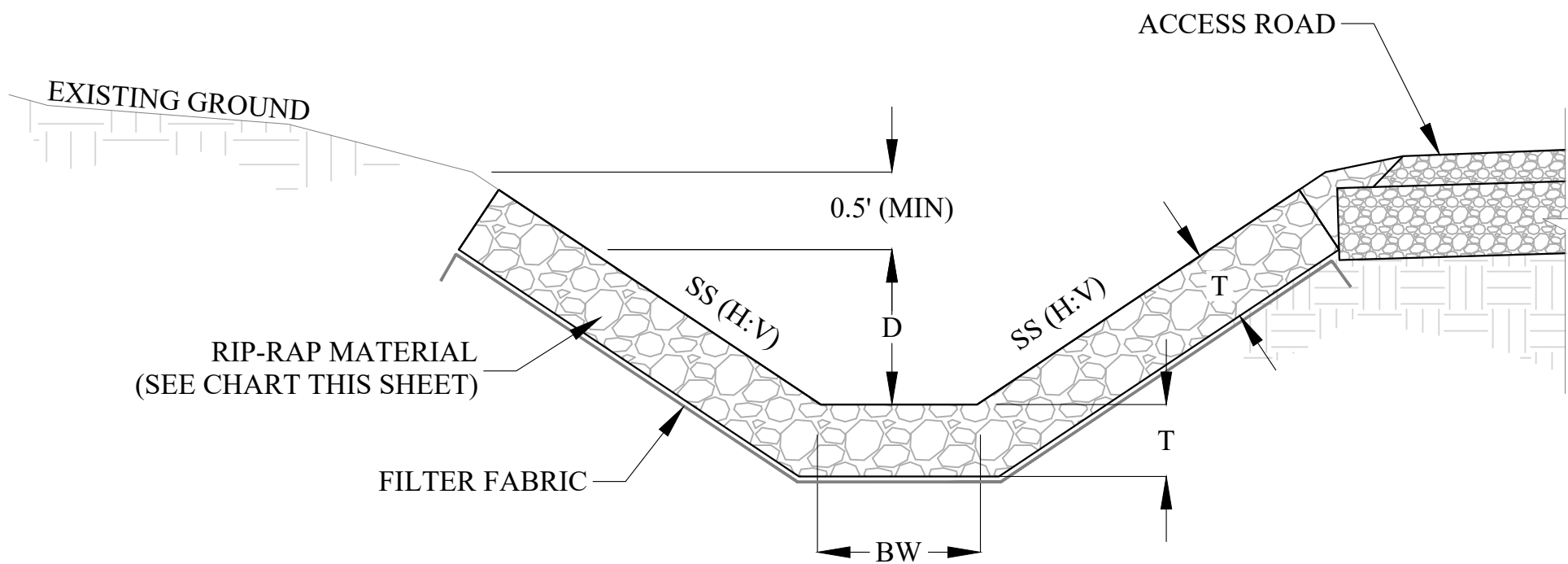
CIVIL DETAILS

SHEET NUMBER

C-7

RIP-RAP DITCH SECTION

ID	BW	MIN. D	SS	T	DITCH LINER MATERIAL
3	1.0'	1.0'	3:1	1.5'	RIP-RAP TYPE A, D50 = 8 INCHES

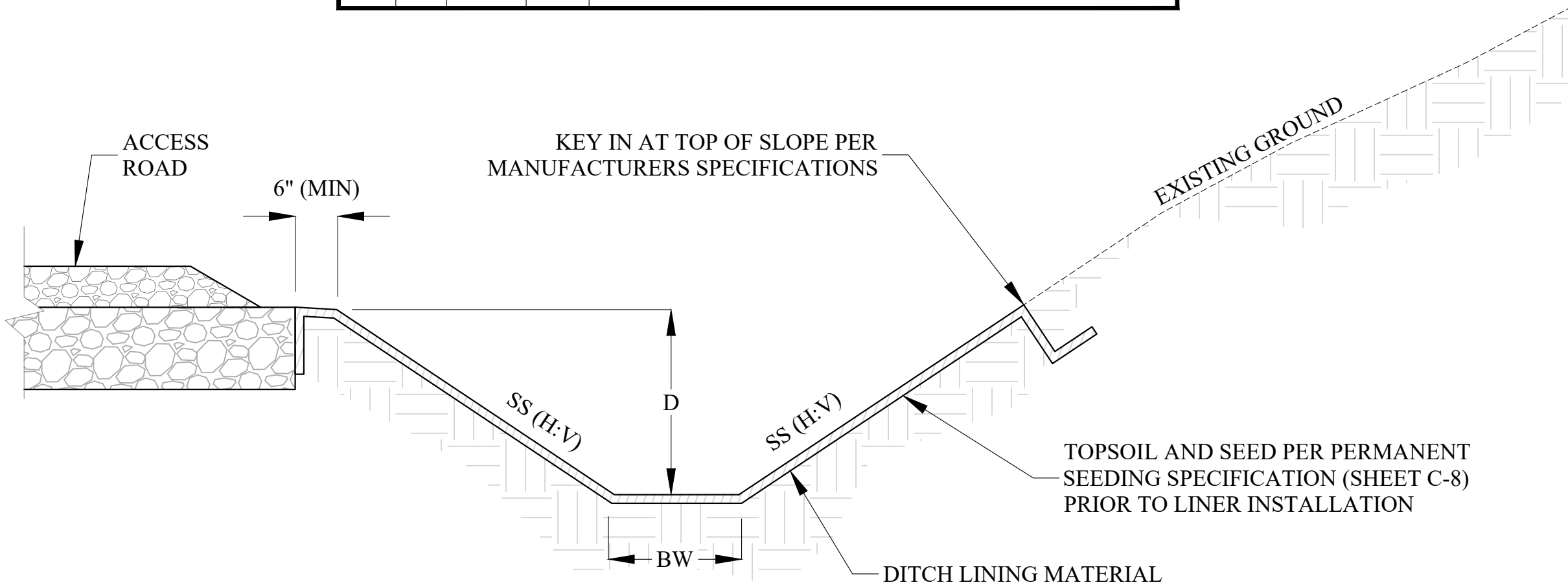


NOTES

- REMOVE ALL TREES, BRUSH, STUMPS, AND OTHER OBJECTIONABLE MATERIAL FROM THE CHANNEL SECTION AND DISPOSE OF PROPERLY (THE CHANNEL SECTION SHOULD BE FREE OF BANK PROJECTIONS OR OTHER IRREGULARITIES WHICH OBSTRUCT NORMAL FLOW).
- RIP-RAP MATERIAL SHOULD BE ANGULAR IN SHAPE AND WELL GRADED TO PROMOTE INTERLOCKING. STONE SHALL BE HARD, DURABLE AND RESISTANT TO CHEMICAL AND PHYSICAL WEATHERING. STONE SHALL ALSO BE FREE FROM OVERBURDEN, SHALE, AND ORGANIC MATERIAL.
- THE THICKNESS SPECIFIED ABOVE IS MEASURED NORMAL TO THE UNDERLYING GROUND SLOPE AND SHALL BE MAINTAINED THROUGH THE ENTIRE LENGTH AND LATERAL EXTENTS OF THE DITCH SECTION. IN NO CASE SHALL THE THICKNESS BE LESS THAN THE MAXIMUM STONE DIAMETER OF THE SPECIFIED RIP-RAP MATERIAL.
- GRADE SITE SO THAT SURFACE WATER MAY ENTER THE CHANNEL FREELY. AVOID BERMING SOIL ALONG THE BANKS THAT WOULD PREVENT RUNOFF FROM ENTERING THE CHANNEL SECTION.
- CONTRACTOR TO MAXIMIZE "BW" AS SPACE ALLOWS.

ROADWAY DITCH SECTION

ID	BW	MIN. D	SS	EROSION CONTROL MATTING
1	1.0'	1.0'	3:1	NORTH AMERICAN GREEN ROLLMAX ERONET P300
2	1.0'	1.0'	3:1	NORTH AMERICAN GREEN ROLLMAX ERONET P300



NOTES

- REMOVE ALL TREES, BRUSH, STUMPS, AND OTHER OBJECTIONABLE MATERIAL FROM THE CHANNEL SECTION AND DISPOSE OF PROPERLY (THE CHANNEL SECTION SHOULD BE FREE OF BANK PROJECTIONS OR OTHER IRREGULARITIES WHICH OBSTRUCT NORMAL FLOW).
- EXCAVATE AND SHAPE CHANNEL TO DIMENSIONS SHOWN ON PLANS. OVERCUT ENTIRE CHANNEL 0.3 FT TO ALLOW FOR BULKING DURING SEED BED PREPARATION AND GROWTH OF VEGETATION.
- GRADE SITE AND ROAD SO THAT SURFACE WATER MAY ENTER THE CHANNEL FREELY. AVOID BERMING SOIL ALONG THE ADJACENT ROADWAY OR CUT SLOPE THAT WOULD PREVENT RUNOFF FROM ENTERING THE CHANNEL SECTION.
- STABILIZE OUTLETS AND INSTALL SEDIMENT TRAPS AS NEEDED DURING CHANNEL INSTALLATION.
- VEGETATE THE CHANNEL PER PERMANENT SEEDING SPECIFICATION (THIS SHEET) IMMEDIATELY AFTER GRADING. SMOOTH SLOPES FACILITATE MAINTENANCE.
- CONTRACTOR TO MAXIMIZE "BW" AS SPACE ALLOWS.

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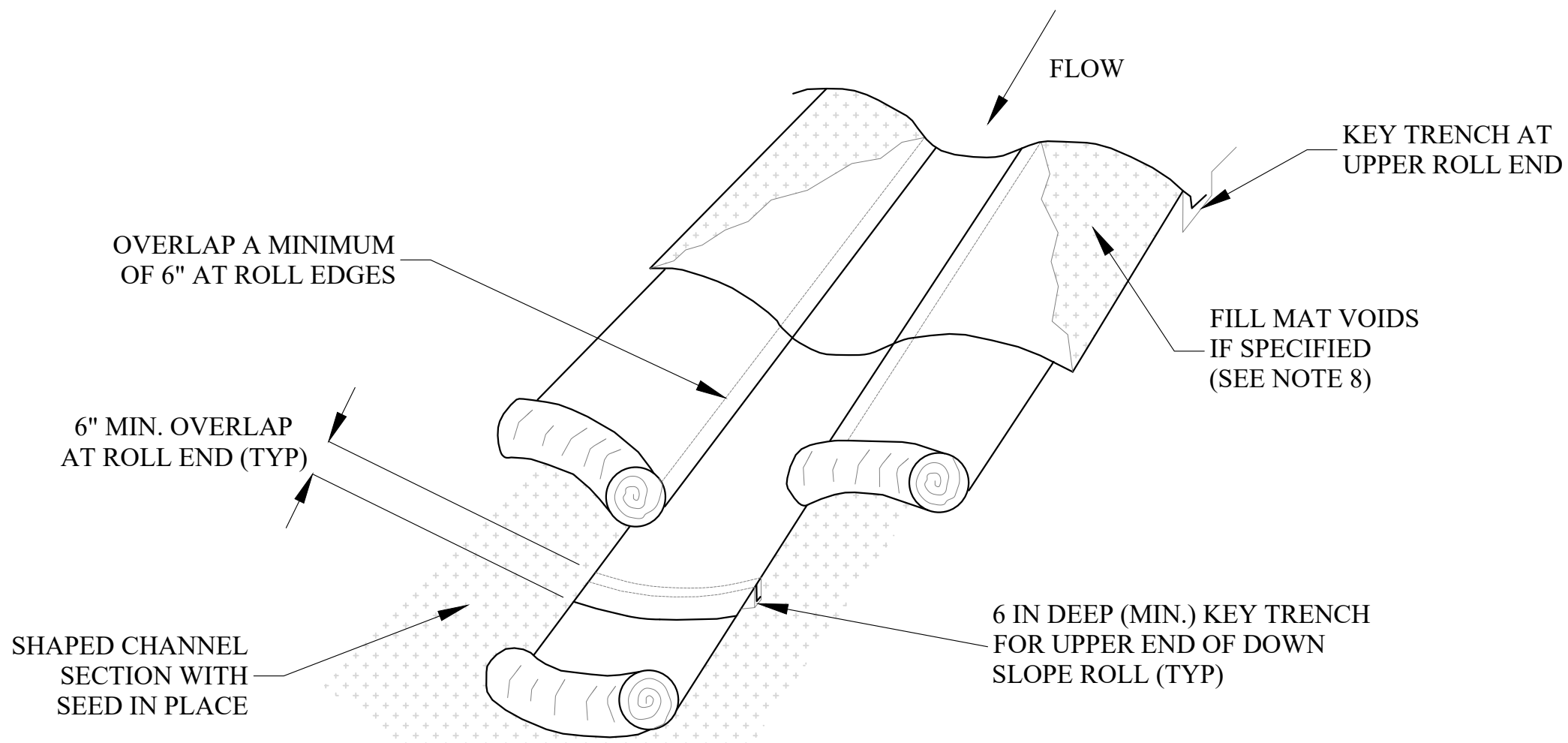
SHEET TITLE

CIVIL DETAILS

SHEET NUMBER

C-8

PERMANENT SOIL STABILIZATION MATTING - CHANNEL



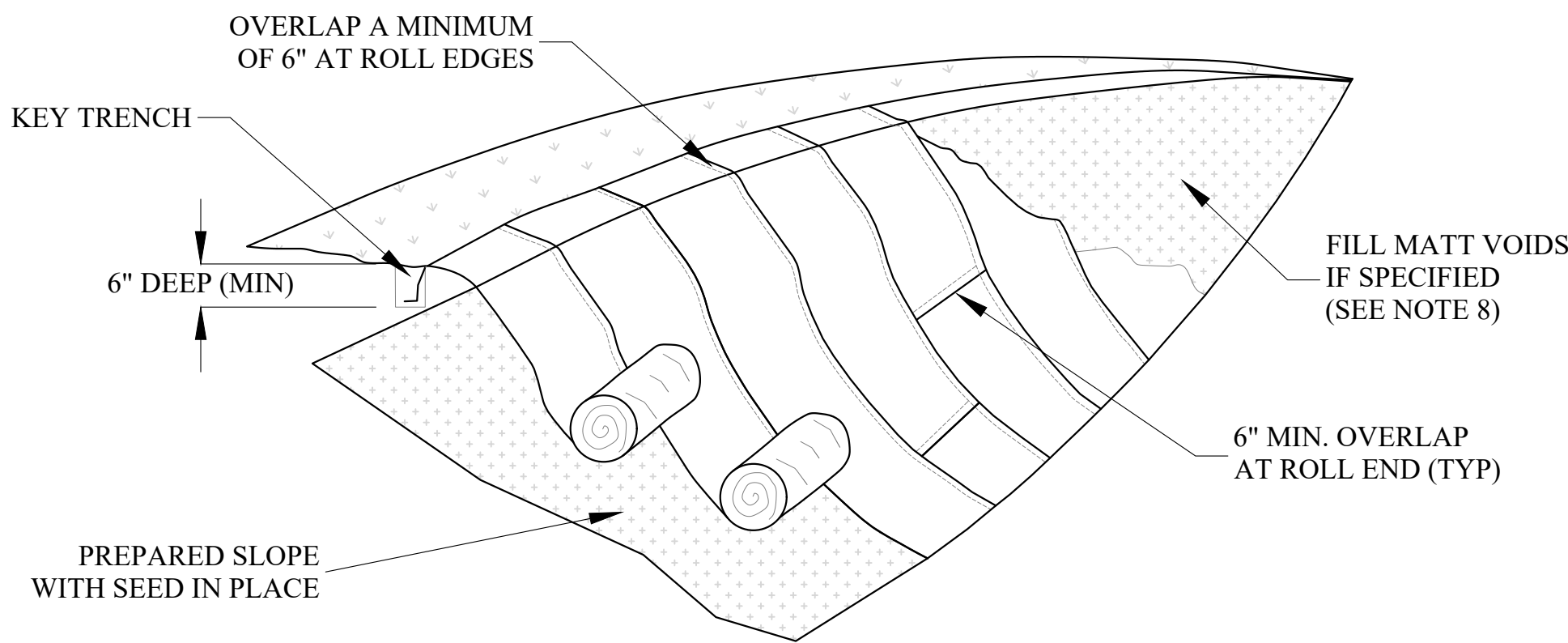
ISOMETRIC VIEW

** MATTING INSTALLATION NOTES ARE MINIMUM REQUIREMENTS AND ARE FOR GENERAL GUIDANCE ONLY. REFER TO MANUFACTURER'S RECOMMENDATIONS OF THE SPECIFIED PRODUCT FOR FULL INSTALLATION DETAILS. IN THE EVENT OF DISCREPANCIES, MANUFACTURER'S RECOMMENDATIONS SHALL GOVERN.

NOTES:

- USE PERMANENT NORTH AMERICAN GREEN C125BN OR APPROVED EQUIVALENT.
- SECURE MATTING USING STEEL STAPLES OR WOOD STAKES. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1 ½ INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPE AT THE BOTTOM.
- PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS, UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.
- UNROLL MATTING IN DIRECTION OF WATER FLOW, CENTERING THE FIRST ROLL ON THE CHANNEL CENTER LINE. WORK FROM CENTER OF CHANNEL OUTWARD WHEN PLACING ROLLS. LAY MATTING SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.
- OVERLAP OR ABUT EDGES OF MATTING ROLLS PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE NEXT DOWNSTREAM MAT.
- KEY IN THE TOP OF SLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY.
- STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.
- IF SPECIFIED BY THE DESIGNER OR MANUFACTURER AND DEPENDING ON THE TYPE OF MAT BEING INSTALLED, ONCE THE MATTING IS KEYED AND STAPLED IN PLACE, FILL THE MAT VOIDS WITH TOP SOIL OR GRANULAR MATERIAL AND LIGHTLY COMPACT OR ROLL TO MAXIMIZE SOIL/MAT CONTACT WITHOUT CRUSHING MAT.

PERMANENT SOIL STABILIZATION MATTING - SLOPE



ISOMETRIC VIEW

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NOTES:

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- SECURE MATTING USING STEEL STAPLES OR WOOD STAKES. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1½ INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPE AT THE BOTTOM.
- PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS, UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.
- UNROLL MATTING DOWN SLOPE. LAY MATTING SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.
- OVERLAP OR ABUT EDGES OF MATTING ROLLS PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE DOWNSLOPE MAT.
- KEY IN THE TOP OF SLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY.
- STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.
- IF SPECIFIED BY THE DESIGNER OR MANUFACTURER AND DEPENDING ON THE TYPE OF MAT BEING INSTALLED, ONCE THE MATTING IS KEYED AND STAPLED IN PLACE, FILL THE MAT VOIDS WITH TOP SOIL OR GRANULAR MATERIAL AND LIGHTLY COMPACT OR ROLL TO MAXIMIZE SOIL/MAT CONTACT WITHOUT CRUSHING MAT.

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SITE ID:

BU# 830306

SHEET TITLE

CIVIL DETAILS

SHEET NUMBER

C-9

GENERAL NOTES	GENERAL NOTES (CONT.)	GRADING (CONT.)	CONSTRUCTION REQUIREMENTS
<div>1. THE SCOPE OF WORK DEPICTED IN THIS PLANSET MUST BE COMPLETED UNLESS NOTED OTHERWISE. THE CONTRACTOR MUST HAVE SUBSTANTIAL EXPERIENCE IN PERFORMANCE OF WORK SIMILAR TO THAT DESCRIBED HEREIN. BY ACCEPTANCE OF THIS PROJECT, THE CONTRACTOR IS CONFIRMING THAT HE DOES HAVE SUFFICIENT EXPERIENCE AND ABILITY TO COMPLETE THE WORK, THAT HE IS KNOWLEDGEABLE OF THE SCOPE OF WORK TO BE PERFORMED AND THAT HE IS LICENSED AND PROPERLY REGISTERED TO DO THIS WORK IN THE STATE AND/OR COUNTY IN WHICH IT IS TO BE PERFORMED.</div> <div>2. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE LATEST VERSION OF THE LOCAL AND NATIONAL BUILDING CODE, WHICHEVER IS MORE STRINGENT.</div> <div>3. SHOP DRAWINGS AND/OR MANUFACTURER'S SPECIFICATIONS AND INSTALLATION INSTRUCTIONS REGARDING ANY HARDWARE, INFRASTRUCTURE, OR MATERIALS SPECIFIED HEREIN SHALL BE FOLLOWED EXACTLY AND SHALL SUPERCEDE ANY CONFLICTING INFORMATION CONTAINED HEREIN.</div> <div>4. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS NOT PROVIDED BY OWNER. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH PERMITS AS ISSUED AND ANY AND ALL APPLICABLE STATE, COUNTY, AND LOCAL CODES.</div> <div>5. THE CONTRACTOR SHALL VERIFY ALL EXISTING TOPOGRAPHY, DIMENSIONS, ELEVATIONS, AND EXISTING CONDITIONS ARE AS INDICATED ON THESE DRAWINGS. ADDITIONALLY, THE CONTRACTOR SHALL ESTABLISH THE LOCATION OF UNDERGROUND AND OVERHEAD UTILITIES AND SERVICES. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER AND OWNER'S ENGINEER FOR RESOLUTION AND/OR MODIFICATION PRIOR TO COMMENCEMENT OF THE WORK.</div> <div>6. EXISTING IMPROVEMENTS DAMAGED OR DESTROYED AS A RESULT OF CONSTRUCTION OPERATIONS SHALL BE REPLACED OR RESTORED TO THEIR ORIGINAL CONDITION OR BETTER, AND TO THE SATISFACTION OF THE OWNER OF THE IMPROVEMENTS</div> <div>7. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL INSPECTIONS, CERTIFICATIONS, AND/OR ANY OTHER REQUIREMENTS WHICH MUST BE MET TO FULFILL THE SCOPE OF WORK AS REPRESENTED IN THIS PLAN SET, OBTAIN A CERTIFICATE OF OCCUPANCY, OR OTHERWISE ALLOW FOR THE FULL INTENDED USE OF THE PROPOSED FACILITY</div> <div>8. THESE PLANS/DRAWINGS DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. OBSERVATION VISITS TO THE SITE BY THE OWNER AND/OR ENGINEER SHALL NOT INCLUDE INSPECTION OF THE CONSTRUCTION PROCEDURES AND DOES NOT ALLEVIATE CONTRACTOR FROM THE FOREGOING. ENGINEER AND/OR OWNER DISCLAIM ANY ROLE IN THE CONSTRUCTION MEANS AND/OR METHODS ASSOCIATED WITH THE PROJECT AS SET FORTH IN THESE PLANS.</div> <div>9. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE AND IMPLEMENT BOTH THE ERECTION PROCEDURE AND SEQUENCE TO ENSURE THE SAFETY OF THE STRUCTURE, ALL SURROUNDING INFRASTRUCTURE, WORKSPACE, EMPLOYEES, AND PUBLIC DURING ERECTION AND/OR MODIFICATIONS. THIS INCLUDES BUT IS NOT LIMITED TO TEMPORARY BRACING, GUYS, TIE DOWNS, OR OTHER SUPPORTS THAT MAY BE NECESSARY DURING CONSTRUCTION.</div> <div>10. ALL MATERIALS AND EQUIPMENT FURNISHED SHALL BE NEW AND OF GOOD QUALITY, FREE FROM DEFECTS AND IN CONFORMANCE WITH THE CONTRACT DOCUMENTS. ANY AND ALL SUBSTITUTION MUST BE PROPERLY APPROVED AND AUTHORIZED IN WRITING BY THE OWNER AND ENGINEER PRIOR TO INSTALLATION.</div> <div>11. IF DEVIATIONS FROM THE DRAWINGS OR SPECIFICATIONS ARE DEEMED NECESSARY BY THE CONTRACTOR, DETAILS OF SUCH DEVIATION AND REASONS THEREOF SHALL BE SUBMITTED TO THE OWNER AND ENGINEER FOR REVIEW. NO DEVIATIONS FROM THE CONTRACT DOCUMENTS SHALL BE MADE WITHOUT THE EXPRESS WRITTEN PERMISSION OF THE OWNER AND/OR ENGINEER</div> <div>12. THE CONTRACTOR MUST, AT ALL TIMES, KEEP THE PREMISES FREE FROM ACCUMULATIONS OF WASTE MATERIALS OR RUBBISH CAUSED BY HIM, HIS EMPLOYEES, OR HIS WORK. ALL DEBRIS SHALL BE REMOVED FROM THE PROJECT SITE ON A DAILY BASIS</div> <div>13. CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS (INCLUDING THE GENERAL PUBLIC) AND PROPERTY (INCLUDING ADJOINING PROPERTIES). THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY, AND HOLD THE OWNER AND DESIGN PROFESSIONAL HARMLESS OF ANY AND ALL LIABILITY REAL OR ALLEGED IN CONNECTION WITH THE PERFORMANCE OF THE WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR DESIGN PROFESSIONAL.</div>	<div>13. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL WORK ASSOCIATED WITH THIS PROJECT COMPLIES WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL SAFETY CODES AND OTHER REGULATIONS GOVERNING THE WORK.</div> <div>14. ACCESS TO THE PROPOSED SITE MAY BE RESTRICTED. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER OR THE OWNER'S REPRESENTATIVE REGARDING ALL CONSTRUCTION ACTIVITY, INCLUDING WORK SCHEDULE AND MATERIAL ACCESS.</div>	<div>5. THE CONTRACTOR SHALL REWORK ALL MATERIALS NOT SUITABLE FOR USE IN THEIR PRESENT STATE DUE TO MOISTURE CONTENT VARIATION. IF THE MATERIAL REMAINS UNSUITABLE AFTER INITIAL REWORKING, THE CONTRACTOR SHALL REMOVE AND REPLACE WITH NEW MATERIAL IN ACCORDANCE WITH THE GEOTECHNICAL REPORT RECOMMENDATIONS.</div> <div>6. IN THE ABSENCE OF A GEOTECHNICAL REPORT A GEOTECHNICAL ENGINEER SHOULD BE RETAINED TO PROVIDE SITE SPECIFIC RECOMMENDATIONS/OVERSIGHT.</div> <div>7. DELTA OAKS GROUP MAKES NO CLAIMS TO THE SUITABILITY OF ANY ON-SITE MATERIALS FOR USE AS FILL TO SUPPORT ANY PROPOSED INFRASTRUCTURE.</div> <div>8. SPOT ELEVATIONS REPRESENT FINISHED GRADE UNLESS OTHERWISE NOTED.</div> <div>9. ALL TEMPORARY AND FINISHED GRADES MUST MAINTAIN ADEQAUTE SURFACE DRAINAGE SO THAT RUN-OFF IS DIRECTED TO DEDICATED OFF-SITE AREAS OR TO ON-SITE COLLECTION POINTS SUCH AS SWALES, CATCH BASINS, DROP INLETS, CULVERTS, STORMWATER BMP'S, ETC. TO PREVENT SURFACE PONDING, STANDING WATER, OR EXTENDED PERIODS OF SOIL SATURATION.</div>	<div>1. UPON ISSUANCE OF BID AWARD, CONTRACTOR WILL BE REQUIRED TO PROVIDE PROOF OF LICENSE TO PERFORM WORK IN APPLICABLE JURISDICTION</div> <div>2. CONTRACTOR WILL PROVIDE A CONSTRUCTION SCHEDULE PRIOR TO COMMENCEMENT OF CONSTRUCTION. SCHEDULE SHALL BE UPDATED IMMEDIATELY AND SUBMITTED TO OWNER IN EVENT OF DELAYS OR REQUIRED TIME EXTENSTIONS. ALL DELAYS AND/OR TIME EXTENSIONS WILL BE ACCOMPANIED BY EXPLANATIONS FOR EACH OCCURRENCE.</div> <div>3. DURING CONSTRUCTION, CONTRACTOR SHALL PROVIDE OWNER OR OWNER'S REPRESENTATIVE WITH PHOTOGRAPHS OF MAJOR CONSTRUCTION MILESTONES AS THEY OCCUR.</div> <div>4. CONTRACTOR OR CONTRACTOR'S REPRESENTATIVE SHALL BE PREPARED TO ATTEND WEEKLY CONFERENCE CALLS WHERE SPECIFIC DETAILS, INCLUDING PROGRESS REPORTS, UNFORESEEN SITE CONDITIONS, SCHEDULE CHANGES, SAFETY CONCERNS, ETC. REGARDING THE SITE WILL BE DISCUSSED.</div> <div>5. CONTRACTOR WILL UTILIZE, ADHERE TO, AND SUBMIT (AS REQUIRED) ALL OWNER PROVIDED DOCUMENTATION.</div> <div>6. CONTRACTOR IS RESPONSIBLE FOR COMPLETION OF ALL CONCRETE COMPRESSIVE STRENGTH TESTING (INCLUDING THE SUBMITTAL OF FINAL TESTING RESULTS AND CLOSE-OUT BOOK)</div> <div>7. CONTRACTOR IS RESPONSIBLE FOR ALL GRADING AND FILL COMPACTION TESTING REQUIRED AS SET FORTH IN THE GEOTECHNICAL REPORT PROVIDED BY OWNER.</div> <div>8. CONTRACTOR IS RESPONSIBLE FOR GROUND MEG TESTING.</div> <div>9. CONTRACTOR SHALL ASSIST IN COORDINATING AND OBTAINING PRIMARY POWER TO THE SITE PRIOR TO TOWER ERECTION. CONTRACTOR SHALL ALSO ASSIST IN COORDINATING AND OBTAINING TEL.CO/FIBER SERVICE PRIOR TO PROJECT COMPLETION (ON SITE VISITS WITH UTILITY COMPANY REPRESENTATIVES AS NECESSARY).</div> <div>10. CONTRACTOR SHOULD BE PREPARED FOR RANDOM SAFETY INSPECTIONS AT ALL TIMES.</div> <div>11. CONTRACTOR IS EXPECTED TO MAINTAIN PROPER WORKING CONDITIONS AND PROCEDURES PER OSHA STANDARDS AT ALL TIMES.</div> <div>12. CONTRACTOR WILL BE REQUIRED TO OBTAIN ALL NECESSARY CONSTRUCTION AND/OR CLOSE-OUT RELATED PERMITS, INCLUDING ELECTRICAL PERMITS AND INSPECTIONS, CERTIFICATES OF OCCUPANCY, ETC. AS REQUIRED BY JURISDICTION.</div> <div>13. CONTRACTOR IS EXPECTED TO CLOSE-OUT THE JOB SITE AS QUICKLY AS POSSIBLE (OBTAINING A CERTIFICATE OF OCCUPANCY AND GETTING OWNER'S SIGN-OFF ON THE SITE).</div> <div>14. CONTRACTOR WILL PROVIDE A COMPLETED TOWER HEIGHT VERIFICATION FORM AND TAPE DROP WITHIN 24 HOURS OF REACHING OVERALL HEIGHT.</div>
	<div>EXISTING INFRASTRUCTURE</div> <div>1. EXISTING TOPOGRAPHIC, UTILITY, PLANIMETRIC, AND BOUNDARY INFORMATION IS TAKEN FROM ALTA SURVEY DRAWING ENTITLED "JON SNOW" BY JONATHAN MURPHY PROFESSIONAL LAND SURVEYING OF 10505 LEAFWOOD PLACE, RALEIGH, NC 27613; (919)280-8189.</div> <div>2. THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES IN THE AREA OF ANY PROPOSED CONSTRUCTION OR PROPOSED DISTURBANCE DUE TO CONSTRUCTION. THE LOCATION OF ALL EXISTING UTILITIES ARE NOT NECESSARILY SHOWN ON THE PLANS AND WHERE SHOWN ARE ONLY APPROXIMATE. THE CONTRACTOR SHALL ON HIS INITIATIVE AND AT NO EXTRA COSTS LOCATE ALL UNDERGROUND LINES AND STRUCTURES AS NECESSARY. NO CLAIMS FOR DAMAGES OR EXTRA COMPENSATION SHALL ACCRUE TO THE CONTRACTOR FROM THE PRESENCE OF SUCH PIPE, OTHER OBSTRUCTIONS OR FROM ANY DELAY DUE TO REMOVAL OR REARRANGEMENT OF THE SAME. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO UNDERGROUND STRUCTURES AND IS RESPONSIBLE FOR CONTACTING ALL NON-SUBSCRIBING UTILITIES. CONTACT ENGINEER IMMEDIATELY IF LOCATION OR ELEVATION IS DIFFERENT FROM THAT SHOWN ON THE PLANS OR IF THERE APPEARS TO BE A CONFLICT BETWEEN EXISTING AND PROPOSED UTILITY LOCATIONS.</div>	<div>EROSION AND SEDIMENT CONTROL</div> <div>1. THE DISTURBED AREA IS APPROXIMATELY 25,900 SQUARE FEET.</div> <div>2. THE RECEIVING WATERCOURSE IS QUINSIGAMOND RIVER.</div> <div>3. THE PROPOSED TOWER LEASE AREA IS NOT LOCATED WITHIN A SPECIAL FLOOD HAZARD ZONE PER FIRM #25027C0827 WITH EFFECTIVE DATE JULY 4, 2011.</div> <div>4. CUT AND FILL SLOPES SHOULD BE STABILIZED WITHIN 7 DAYS DURING ANY PHASE OF GRADING</div> <div>5. STREETS ADJACENT TO THE PROJECT SHALL BE KEPT CLEAN AT ALL TIMES FROM SEDIMENT OR OTHER CONSTRUCTION GENERATED MATERIAL OR A WASH STATION WILL BE REQUIRED</div> <div>6. THE CONTRACTOR SHALL COMPLY WITH ALL GOVERNING REGULATIONS REGARDING EROSION AND SEDIMENT CONTROL FOR THE AGENCY HAVING JURISDICTION OVER CLEARING AND GRADING PROCEDURES. UTILIZE BEST MANAGEMENT PRACTICES (BMPS) DESCRIBED IN THE GOVERNING AGENCY'S OR APPLICABLE STATE'S CODE IN ORDER TO BOTH PREVENT/MINIMIZE CONCENTRATED FLOWS THROUGH OR ACROSS UNSTABILIZED/DENUDED AREAS AND PREVENT/MINIMIZE SEDIMENT LADEN STORMWATER RUNOFF FROM LEAVING THE CONSTRUCTION SITE. SPECIFIC BMP EXAMPLES INCLUDE SILT FENCE, CONSTRUCTION ENTRANCE(S), PERIMETER DIVERSION SWALES, INLET PROTECTION, AND OTHER APPLICABLE MEASURES.</div> <div>7. CONTRACTOR AND/OR OWNER SHALL BE RESPONSIBLE FOR THE IMPLEMENTATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL DEVICES SPECIFIED HEREIN AND ANY ADDITIONAL CONTROLS THAT MAY BECOME NECESSARY IN ORDER TO ENSURE THE PROTECTION OF ADJACENT PROPERTIES AND WATERWAYS. ALL TEMPORARY DEVICES SHALL BE APPROPRIATELY MAINTAINED UNTIL ALL EARTH DISTURBING ACTIVITIES HAVE CEASED AND THE PROJECT IS STABILIZED AND APPROVED.</div> <div>8. EROSION CONTROL MEASURES SHALL BE CHECKED DAILY AND IMMEDIATELY FOLLOWING ANY RAINFALL EVENTS. ANY NOTED DEFICIENCIES WILL BE CORRECTED IMMEDIATELY (NO LATER THAN THE END OF EACH DAY). IMMEDIATELY UPON THE DISCOVERY OF UNFORESEEN CIRCUMSTANCES THAT POSE THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE CONTRACTOR SHALL IMPLEMENT APPROPRIATE BMPS TO MINIMIZE THE POTENTIAL FOR EROSION AND SEDIMENTATION.</div> <div>9. ALL DENUDED CUT/FILL SLOPES STEEPER THAN OR EQUAL TO 2:1 SHALL BE PROTECTED WITH NORTH AMERICAN GREEN SC125 OR EQUIVALENT UNLESS ALTERNATIVE SLOPE PROTECTION MEASURES ARE APPROVED</div> <div>10. ALL CONSTRUCTION TRAFFIC SHALL ENTER AND EXIT THE SITE VIA THE CONSTRUCTION ENTRANCES</div>	<div>SEEDBED PREPARATION</div> <div>1. SCARIFY COMPACTED AREAS AND REMOVE ALL LOOSE ROCK, ROOTS, AND OTHER OBSTRUCTIONS LEAVING SURFACE REASONABLY SMOOTH AND UNIFORM. FILL ANY EXISTING RILLS AND GULLIES</div> <div>2. IMMEDIATELY PRIOR TO SPREADING TOPSOIL, CORRECT PH OF THE SUBSOIL WITH LIME PER RECOMMENDATION OF SOILS TEST OR AT A RATE SUITABLE TO THE SITE CONDITIONS. LOOSEN THE SUBGRADE OF THE SITE TO RECEIVE THE TOPSOIL BY DISKING OR SCARIFYING TO A DEPTH OF AT LEAST 2-INCHES TO ENSURE BONDING OF THE TOPSOIL AND SUBSOIL.</div> <div>3. UNIFORMLY SPREAD TOPSOIL 3-INCHES DEEP IN AREAS AS REQUIRED</div> <div>4. APPLY LIME AND/OR FERTILIZER AS NECESSARY AND TILL SOIL UNTIL A WELL-MIXED, PULVERIZED, FIRM, REASONABLY UNIFORM SEEDBED IS PREPARED. THE PREPARED SEEDBED SHOULD BE 4 TO 6 INCHES DEEP.</div> <div>5. SEED A FRESHLY PREPARED SEEDBED AND COVER SEED LIGHTLY WITH SEEDING EQUIPMENT OR CULTIPACK AFTER SEEDING</div> <div>6. MULCH IMMEDIATELY AFTER SEEDING AND ANCHOR MULCH</div> <div>7. INSPECT ALL SEEDED AREAS AND MAKE NECESSARY REPAIRS OR RESEEDINGS WITHIN THE PLANTING SEASON, IF POSSIBLE. IF STAND SHOULD BE OVER 70% DAMAGED, REESTABLISH FOLLOWING ORIGINAL LIME, FERTILIZER AND SEEDING RATES</div> <div>8. SEE PERMANENT SEEDING SPECIFICATION SHEET C-9.</div>
	<div>UTILITIES</div> <div>1. CONTRACTOR SHALL COORDINATE WITH THE OWNER REGARDING THE REQUIREMENTS AND LIMITS OF CLEARANCE FOR OVERHEAD AND/OR UNDERGROUND ELECTRICAL SERVICE</div> <div>2. ALL UNDERGROUND UTILITIES SHALL BE INSTALLED AND TESTED SATISFACTORILY PRIOR TO COMMENCING ANY PAVING ACTIVITY WHERE SUCH UTILITIES ARE WITHIN THE LIMITS OF PAVEMENT</div> <div>3. UNLESS OTHERWISE SPECIFIED HEREIN, MINIMUM COVER FOR CONDUITS SHALL BE 36-INCHES</div>	<div>GRADING</div> <div>1. CONTRACTOR IS TO CONTACT DIG SAFE SYSTEM, INC AT 1-888-344-7233 FOR UNDERGROUND UTILITY LOCATION 48 HOURS PRIOR TO ANY GROUND DISTURBANCE.</div> <div>2. ALL CONSTRUCTION AREAS ARE TO BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL, ORGANICS AND UNSUITABLE MATERIALS PRIOR TO GRADING AND IN ACCORDANCE WITH THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL REPORT.</div> <div>3. EXCAVATIONS SHOULD BE SLOPED OR SHORED IN ACCORDANCE AND COMPLIANCE WITH OSHA 29 CFR PART 1926, EXCAVATION TRENCH SAFETY STANDARDS AS WELL AS LOCAL, STATE AND FEDERAL REGULATIONS.</div> <div>4. ALL FILL PLACEMENT INCLUDING SUITABILITY OF FILL MATERIALS AND COMPACTION OF MATERIALS SHOULD BE CONDUCTED IN ACCORDANCE WITH THE RECOMMENDATONS SET FORTH IN THE GEOTECHNICAL REPORT. IN THE ABSENCE OF FILL SPECIFICATIONS, THE FOLLOWING MINIMUM REQUIREMENTS SHOULD BE ADHERED TO:<div><div>4.1. FILL LIFT THICKNESS SHOULD NOT EXCEED 8 INCHES LOOSE.</div><div>4.2. FILL MATERIALS SHOULD NOT BE PLACED ON SATURATED OR FROZEN SURFACES</div><div>4.3. FILL MATERIALS SHALL BE FREE OF FROZEN PARTICLES, BRUSH, ROOTS, SOD, OR OTHER OIJECTIONABLE MATERIALS THAT WOULD PREVENT THE CONSTRUCTION AND/OR COMPACTION OF SATISFACTORY FILLS. THIS INCLUDES SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIALS</div><div>4.4. ALL FILLS SHOULD BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE, OR OTHER RELATED PROBLEMS. ALL FILL AREAS WITHIN BUILDINGS OR OTHER STRUCTURES, TRAVEL/ ACCESS ROUTES, PARKING AREAS AND EXTENDING 5-FT (MINIMUM) OUTSIDE OF THOSE AREAS' FOOTPRINT, SHOULD BE COMPACTED TO +/- 95% OF MAXIMUM DRY DENSITY OF THE MATEIRAL AS OBATINED BY THE STANDARD PROCTOR METHOD.</div></div></div> <div><i>* DELTA OAKS GROUP MAKES NO CLAIM TO THE VALIDITY OF THESE RECOMMENDATIONS TO THE SITE'S SPECIFIC GEOTECHNICAL CONDITIONS AND STRONGLY RECOMMENDS A SITE-SPECIFIC GEOTECHNICAL INVESTIGATION BE PERFORMED. ANY AND ALL FILL RECOMMENDATIONS PRESENTED IN SUCH A REPORT WILL TAKE PRECEDENCE OVER THE INFORMATION PRESENTED HEREIN.</i></div>	<div>PANEL SCHEDULE</div> <div>1. SERVICE BOND IS TO BE MADE BY DEVICES (STRAPS, SCREWS, ETC. SUPPLIED BY EQUIPMENT MANUFACTURER. IF NO SUCH DEVICE IS SUPPLIED, BOND IS TO BE MADE IN ACCORDANCE WITH NEC ARTICLE 250.</div> <div>2. CONDUCTOR OVERCURRENT PROTECTION DEVICES ARE SELECTED IN ACCORDANCE WITH NEC ARTICLE 240-3.</div> <div>3. CONDUCTOR SIZING IS SELECTED FROM NEC ARTICLE 310-16</div> <div>4. ALL LUGS THAT HOLD MORE THAN ONE WIRE SHALL BE LISTED FOR MULTI-BARREL CONNECTIONS</div> <div>5. ALL CONDUCTORS SHALL BE INSULATED THHIN WIRE</div>